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Original Communications.

ART. I.—*Esmarch's Bloodless Method.* By HENRY B. SANDS, M. D.[1]

IN April, 1873, at a meeting of the German Surgical Congress, in Berlin, Prof. Esmarch, of Kiel, announced an important discovery. He stated that, after many trials, he had ascertained the fact that, by the application of an elastic bandage to the extremities, the limbs could be rendered bloodless; and that, by the substitution of a piece of rubber tubing for the tourniquet, the condition of artificial anæmia produced by the bandage could be maintained, so as to permit operations to be performed upon the parts below, with even less loss of blood than if performed upon the dead body. Such an announcement could not fail to excite surprise; and surgeons, both in Europe and America, hastened to test the accuracy of the statements made by the German teacher. In the present paper I have endeavored to form an appreciation of the value of Esmarch's method, by studying the experience which the surgeons of New York and its vicinity have had in its employment during the year that has passed since it was first put upon trial here. And I may remark, incidentally, that whatever value the method may be found to possess, must fairly be ascribed to Esmarch himself, and not to his predecessors. Attempts have been made, especially in England, to prove that the method is no novelty, either in principle or in detail, and that the same results had often been obtained by the use of an ordinary bandage and a tourniquet. But, although it must be admitted that the principle is an old one, the successful application of it is unquestionably due to the employment of the elastic bandage, as recommended by Esmarch. To any one who compares the action of an ordinary with that of an elastic bandage, in the production of artificial anæmia, the superiority of the latter is at once apparent. Indeed, the novelty of Esmarch's method is shown by the fact, that the old method, owing to its imperfections, had wellnigh fallen into oblivion; while the new one has excited an interest and enthusiasm in the surgical world which have not been equaled since the introduction of anæsthetics.

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[1] Read, November 23, 1874, at the anniversary meeting of the Medical Society of the County of New York, by H. B. Sands, M. D., President of the Society.

For the information of those who are not yet familiar with the details of the bloodless method, it will be desirable, first, to describe the mode and range of its application. Secondly, we may state its alleged advantages and disadvantages; and, finally, endeavor to estimate its value as tested by our own experience.

The bandages are composed of elastic webbing, or—what is better—of simple sheet-rubber, which can be more readily cleaned than the webbing, when it has become soiled by pus or other discharges. The bandages should be about two and a half inches wide, and it is convenient to be provided with several of them, each three yards in length, rather than to employ one long bandage. As a substitute for the tourniquet, some surgeons use a piece of the same bandage; others employ a solid rubber cord or rope, about a quarter of an inch in diameter; while Esmarch himself recommends for this purpose a piece of tubing made of non-vulcanized rubber, which is softer and more yielding than the other varieties. The application of the bandage, in ordinary cases, is quite simple. It is put on with moderate compressing force, and carried from the fingers or the toes to any desired height. The constricting cord or tube, which is to take the place of the tourniquet, is then wound two or three times around the limb, immediately above the upper edge of the bandage, and made fast either by a knot, or by a hook and chain, or any similar contrivance. The bandage is then removed to expose the parts for operation. Some experience is needful to apply the bandage with the proper degree of force. Often it is applied too firmly, and this mistake is pretty sure to be made by beginners. On the other hand, it may be applied too loosely, and I have several times seen it put on with just sufficient force to allow venous congestion of the parts, with consequent hæmorrhage during the operation. The same remark applies, with equal truth, to the use of the constricting cord, which, if applied too loosely, will cause venous engorgement, and, if too tightly, may do serious damage to the nerves, and probably also to the blood-vessels of the limb.

The skin, when exposed after the removal of the bandage, is seen to be blanched and anæmic; and, when the deeper tissues are cut into, they are found to be nearly or quite bloodless. The vessels, both arterial and venous, are almost absolutely empty, so that an amputation of the thigh, for example, can be performed without the loss of more than five or ten drops of blood. This bloodless condition remains unaltered so long as the constricting band is kept in position. Immediately after this has been removed, however—the large vessels having been previously secured—the blood returns to the parts with considerable force, and, if these are vascular, a pretty free oozing commonly takes place from the surface of the wound. This bleeding is usually quickly checked by the use of cold water, aided, if necessary, by gentle pressure.

With slight modifications in the adaptation of the apparatus, the bloodless method is applicable to amputation at the hip or the shoulder joint. A case of amputation at the hip-joint has recently been reported in the London *Lancet*, by Dr. Gibb, of Newcastle, who states that only two ounces of blood were lost during the operation—this having escaped from the veins when the femoral vessels were divided. It is also stated that, in this case, no harm resulted from the pressure of a pad which was placed over the abdominal aorta. In operations upon the penis and scrotum, and in the removal of large tumors of the breast, the method has been successfully applied. Langenbeck speaks highly also of its employment in extirpation of vascular tumors of the scalp.

The enumeration I have now given nearly completes the list of regions to which the bloodless method is applicable. It cannot be employed in operations on the trunk, or on the face and neck, where surgeons would gladly, if possible, avail themselves of its advantages.

These advantages, as claimed by Esmarch, are as follow: First, the prevention of a great loss of blood during the larger operations. It is assumed that this economy of the vital fluid will sometimes be the direct means of saving life; that it will render more certain and speedy the healing process, and diminish the frequency of septicæmia and pyæmia. The other principal advantage of the method is the facility with which it enables the surgeon to accomplish deep and difficult dissections, the tissues not being obscured by blood. It is said also to permit the easy extraction of foreign bodies, and the thorough examination of diseased bones and joints, with the view of deciding upon the extent of operation necessary in any given case.

The following objections have been made to the bloodless method. It is alleged that the pressure impairs the vitality of the parts, and causes them, in many instances, to slough. Also, that it affects injuriously the nerve-trunks, giving rise to paralysis, both of sensation and motion. Hæmorrhage, occurring shortly after the operation, has been ascribed to the method. Its employment is also thought to be dangerous, because it may induce plethora of the internal organs, by driving back into the blood-vessels a larger amount of blood than they normally contain. It is feared that the vessels, if brittle from disease, might be ruptured from this cause. Lastly, it is believed that in cases of gangrene, or unhealthy suppuration, poisonous fluids may be pressed into the blood-vessels, or into the healthy tissues, by the elastic bandage, and thus occasion septicæmia or pyæmia.

In a second paper lately written by Esmarch, that surgeon gives the results of two hundred bloodless operations performed by him during the preceding year; and these results show the method in a most favorable light. As our own experience, however, is that on which we must rely, I proceed at once to a brief analysis of the cases which I have been able to obtain. They have been collected from the principal hospitals of New York, Brooklyn, and Jersey City, and from the private practice of Drs. Wood, Krackowizer, Gouley, Ely, Weber, Little, Varick, and myself. The records of Charity Hospital are not included in my table, as they were so imperfectly kept that no use could be made of them. I have also failed to obtain the experience of St. Francis's Hospital in this city, where more than twenty bloodless operations are said to have been performed. I have endeavored to present all of the hospital cases, both good and bad; and, although some of the histories are imperfect, they present many interesting and instructive details. The list embraces one hundred and forty-three cases, which I have classified as follows:

	Cases.	
Amputation of fingers, primary	4.	
" " secondary or for disease.	3.	
" hand, partial primary	3.	One fatal from hæmorrhage.
" at wrist-joint, primary	1.	
" of forearm, primary	5.	
" " secondary	1.	
" arm, primary	5.	Two fatal: one from erysipelas, one from shock.
" " secondary	1.	
" toes, primary	2.	
" foot, partial	1.	
" at ankle-joint (Syme's)	4.	
" " secondary	5.	
" of leg, primary	11.	Three fatal: two from pyæmia, one from Bright's disease and exhaustion.
Double amputation of leg, primary	1.	Fatal from shock in forty-four hours.
" " secondary	3.	One fatal, performed for tetanus.

	Cases.	
Double amputation at knee-joint, primary	4.	One fatal from gangrene on fourth day.
“ of thigh, primary	8.	Two fatal from pyæmia.
“ “ and leg, primary.	1.	
“ “ “ second'y.	9.	Three fatal: one from phthisis, one from exhaustion, and one from pyæmia.
Excision of wrist	3.	
“ “ primary	1.	
“ elbow, disease	3.	
“ “ primary	3.	
“ ankle-joint	2.	
“ knee-joint, disease	1.	Fatal from pyæmia.
“ tarsus	1.	Patient has symptoms of tetanus.
“ tibia, primary	1.	
“ femur, for ununited fracture	1.	
Necrosis of “	11.	One fatal from pyæmia.
“ tibia	11.	
“ fibula	1.	
“ os calcis	3.	
“ scapula	1.	
“ humerus	3.	
“ radius	4.	
“ ulna	1.	
“ metacarpus	1.	
Ununited fracture of leg	1.	
Exostosis of femur	1.	
Removal of tumor from thigh	1.	
“ “ popliteal space	1.	
“ “ leg	4.	
“ “ forearm	1.	
Ligature of wounded ulnar arteries	1.	Fatal from pyæmia.
“ “ anterior tibial artery	1.	
“ “ deep palmar arch	1.	
Tenotomy of hamstring	1.	
Excision of large mammary tumor	1.	
Incision of leg for varicose ulcer	1.	
Fistula of penis	1.	
Trephining abscess of tibia	1.	
Neuroma of stump	1.	
Elephantiasis arabum	1.	

On reviewing the above table, we find 63 amputations, excluding those of the fingers and toes. Of these operations, 44 were primary, for injury, and 19 secondary, or for disease. Of the primary amputations, 10 cases, or 22.7 per cent., terminated fatally—the causes of death being the following:

Pyæmia	4
Exhaustion or shock	3
Spreading gangrene	1
Erysipelas	1
Hæmorrhage	1

Of the cases fatal from pyæmia, one patient had the disease at the time of the operation.

Of 8 cases of primary amputation of the thigh, 2 cases, or 25 per cent., ended fatally.

Of 11 cases of primary amputation of the leg, 3 cases, or 27.3 per cent., were fatal.

Secondary amputations, 19 cases, give a mortality of 21 per cent. The causes of death are stated as follows:

Tetanus (existing at time of operation)	1
Exhaustion	1
Phthisis	1
Pyæmia	1
Total	4

Although I have not the means of making an exact comparison, I believe that the percentage of recoveries in these primary amputations, which were nearly all performed on hospital patients, is somewhat larger than is commonly observed in such operations.

Out of 14 cases of excision of the joints, only one proved fatal; the cause of death being pyæmia. Another case will probably end fatally, however, as the patient was suffering from tetanus when last heard from.

Finally, the list included two more deaths, one following an operation for necrosis—the only fatal case out of 36—and the other an operation for the ligature of the ulnar artery, performed for a wound near the wrist.

These cases are not sufficiently numerous to possess much statistical value, and they do not, as I think, warrant any definite conclusions respecting the general efficiency of the bloodless method in diminishing the mortality which usually attends the larger operations. Certainly, pyæmia is not prevented by it, for the greatest number of deaths are reported as due to this cause. On the other hand, it must not be assumed that the elastic bandage is responsible for the pyæmic cases, for, so far as I have been able to learn, the application of the bandage to gangrenous and putrefying parts has been carefully avoided. It is interesting to observe that no serious results appear to have ensued from the forcing back of blood into the vessels of the trunk, although the quantity of blood thus added, as it were, to the circulation, must, in the cases of amputation of the thigh, have been considerable. In a physiological point of view, this fact is remarkable, and shows that the blood-vessels can bear a suddenly-increased internal pressure, without any appreciable shock to the system, and without rupture of their walls. Further and more exact observation is needed, however, to conclusively determine the safety of the bloodless method in this respect; and it will perhaps be found that this distention of the vessels may be dangerous to persons suffering from organic diseases of the thoracic and abdominal viscera.

Although the cases in the table are too few for statistical purposes, they are numerous enough to settle many questions relating to Esmarch's method. And, in the first place, I may remark that it is perfect in its results, so far as the bloodless character of the operation is concerned. In an amputation of the thigh, for example, the limb can be removed, and the principal arteries secured, with the loss of only a few drops of blood; and, although the hæmorrhage from the smaller vessels may be tolerably free when the constricting band is unfastened, the bleeding is very trifling when compared with that which occurs during an amputation performed according to the ordinary method. In any case, the amount of blood lost to the general circulation can never equal that which has been gained by the employment of the bandage, so that, after the operation, the patient will have proportionately more blood than before. That this saving of the sanguineous fluid must be salutary in certain conditions, can hardly be doubted, and one of my own cases may be quoted as an example. A man was brought to the Bellevue Hospital, twelve hours after having had his foot crushed by the wheels of a railway-car. The anterior tibial artery was wounded, and had bled so freely that the patient was in a fainting condition, and had no pulse at the wrist. Having administered stimulants by the rectum, I performed amputation of the leg by the bloodless method, and the patient made an excellent recovery. It is reasonable to infer that, if the operation had been attended with the usual loss of blood, the result might not have been so fortunate.

Patients with compound fractures are often brought into our hospitals while bleeding severely from injured blood-vessels; and the ordinary bandage, which is usually employed before they are brought to our notice, rarely suffices to check the hæmorrhage. The application of the elastic roller, in such cases, would frequently be the means of saving life; and a supply of these should be furnished to the ambulance-surgeons, and to those in charge of the police-stations, as they could be used with efficiency, even by the most inexperienced.

No argument is needed to prove the excellence of the method, in enabling the surgeon to have a clear and unobstructed view of the tissues that come under his knife; and this feature of bloodless operations is, to my mind, the one of greatest value. Every one has remarked how much easier it is to expose an artery or a nerve in the dead than in the living body. Now, this difference depends almost entirely upon the fact that, in the latter, the tissues are stained and altered in their appearance by the blood which escapes from the divided vessels. While the blood is still flowing, the parts are often completely concealed from view; but, even after the hæmorrhage has ceased, the tissues are not unfrequently so uniformly stained as to make their recognition a difficult task. In these circumstances, especially if the dissection is a deep one, precision in operating is often impossible, and injuries, both unavoidable and serious, are not seldom inflicted upon blood-vessels and nerves, even by skillful and cautious operators. In a bloodless operation, however, these difficulties vanish, as if by magic, and dissections may be made upon the living body, with a degree of precision heretofore unknown. The aid thereby afforded to the surgeon is incalculable, and the advantage to the patient is great and obvious. To one who has never before witnessed a bloodless operation, that for necrosis of the femur in the popliteal space is, perhaps, one of the most striking. Instead of groping among tissues obscured by venous blood, and needlessly sacrificing the living bone, to permit the removal of the sequestrum, the operator can use his eye to guide the instrument at every step, distinguish at a glance the diseased from the healthy bone, and complete the operation with the least possible damage to the surrounding tissues. A medical friend, being present at such an operation, remarked to me that he had attended many operations for necrosis, but that this was the first one he had ever seen. In operations for caries of the joints too, particularly those of the hand and the foot, the bloodless method permits the surgeon to inspect the diseased parts with ease and satisfaction, and to determine, to a nicety, the extent to which these require to be removed. In doubtful cases, we may thus often substitute for an amputation the minor operation of excision, or even an exploratory incision into the affected tissues.

The table gives eight cases of the removal of tumors from deeply-seated parts. The particulars of these cases are somewhat meagre; but, with the exception of one in the practice of Dr. Ely, of Newburg, where the extirpation of the tumor necessarily involved the division of the large femoral vessels, and consequent amputation of the thigh, they all terminated successfully. In Dr. Wood's case, that of a tumor in the popliteal space, I presume the dissection was made more easy and certain by the employment of the elastic roller. Its advantages were plainly shown in a case that occurred in my own private practice. The patient, a lady, whom I saw in consultation with Dr. Dana, had a sarcomatous tumor about as large as a walnut, growing from the periosteum of the radius, near the upper extremity of the bone. To remove it, I was obliged to turn aside the superficial muscles, and to cut away a part of the supinator brevis. In doing this I exposed the posterior interosseous nerve to the extent of nearly an inch; but with care I dissected out the tumor without injury to the nerve. The wound healed in five days, by the first intention, and no paralysis followed. I feel confident that, had I not been able to avail myself of Esmarch's method, I should have probably either divided the nerve, or excised it. While pursuing this line of remark, I would suggest a caution. The bloodless state of the parts, while it favors the recognition of most of the textures, renders the blood-vessels themselves, in consequence of their emptiness, somewhat liable to accidental division. Ordinarily, in operations such as are performed for the removal of deep-seated tumors, or for the ligation of vessels, both the arteries and the veins are easily recognized, the former, if at all large, exhibiting pulsation, and the latter revealing themselves by their size, color, and compressibility. But, when the bloodless method is employed, I have found that considerable care is required to avoid the unnecessary division of vessels—the veins, from the thinness of their coats, being especially liable to this accident. During the operation, therefore, the surgeon should make good use of his anatomical knowledge, and study the appearance of the tissues before he divides them. Otherwise, what is a bloodless operation in the beginning, may in the end be a very bloody one; and the operator may be chagrined to find, when the pressure of the cord is removed, that he has unwittingly severed one or more important vessels. Moreover, in any case, before the wound is closed, its surface should be scrupulously examined, lest a divided artery escape notice at the time, and shortly after prove the source of a more or less copious hæmorrhage. It is desirable to secure as many vessels as possible, before the pressure is remitted, as the capillary bleeding which occurs afterward considerably obscures the parts, and prevents the recognition of the arteries, unless they are spurting freely. With care, a great number of vessels may be secured with a trifling loss of blood, as is shown by a case of large mammary tumor, removed by Dr. Gouley, who has favored me with the following memorandum: "This tumor, which had been growing for eleven years, and was very large—weighing nine pounds—proved to be a large-cell sarcoma. Esmarch's elastic bandage was so applied as to make firm pressure upon its entire surface; then the rubber tube was securely wound around its base, which was somewhat pedunculated. When uncovered, the tumor was softer than before, and its surface quite blanched. During the extirpation, not more than one ounce of blood escaped, and throughout the entire operation—thirty ligatures having been applied—the total loss of blood did not exceed eight ounces. The pressure upon the tumor, and at its base, was not continued for more than ten minutes. The patient recovered, the greater part of the wound healing by the first intention."

Our table includes three cases of wounded arteries, in which the bloodless method was employed in searching for the injured vessel. In the first case, the ulnar artery, in the second, the superficial palmar, and, in the third, the anterior tibial, was the seat of lesion, and in all the vessel was found and secured. There can be no doubt that such operations are greatly facilitated by the employment of the elastic bandage. In traumatic aneurism also, in which the plan of laying open the sac is adopted, the difficulties of the operation, which are sometimes very great, must be nearly removed by the aid of Esmarch's method. A case of this character is related by Leisrink, who treated successfully a traumatic aneurism of the anterior tibial artery, situated in the upper third of the leg, by opening the sac, and tying the artery as it lay upon the interosseous membrane. Those who are aware of the great depth at which the artery is placed in the upper part of its course, will appreciate the assistance which the bloodless method must have afforded in this operation, which is stated by Leisrink to have been performed with ease.

To the Hunterian operation, as practised for idiopathic aneurism, the method is not applicable, as the artery can be exposed in the usual manner without difficulty, and as the pressure of the bandage might cause the rupture or inflammation of the aneurismal sac.

Finally, in this connection, it may be mentioned that, although there are no cases in the table to prove it, the bloodless method has been found serviceable in operations undertaken for the extraction of foreign bodies, such as pieces of needles or of glass, from the hand or foot. These parts are exceedingly vascular, and, when rendered bloodless, must permit a more precise and satisfactory exploration than could otherwise be made.

Another alleged advantage of the method, which finds no illustration here, is the local anæsthesia which is said to accompany the state of local anæmia. A case is reported by Stokes, of Dublin, in which the extirpation of an epithelial cancer, from the back of the hand, was accomplished without pain. The effects of the ether-spray, when employed as an auxiliary, are also said to be very rapidly produced, because the arrest of the circulation in the parts prevents their natural warmth from being renewed. I am doubtful whether local anæsthesia, induced by these methods, can be obtained without some compensating disadvantage. Both the elastic bandage and the ether-spray cause considerable pain; and, when combined, would, as I fear, be very apt to occasion sloughing. The question, however, is one that will soon be determined by experience.

The table presented contains a number of minor operations, which require no comment. A novel application of the method, however, was made by Dr. Wood, who applied the elastic bandage in a case of elephantiasis of the thigh, with a satisfactory result. I hope that Dr. Wood, who is present, will communicate the particulars of this interesting case.

Having considered the advantages of Esmarch's method, as shown by the facts which I have collected, let us now try to determine whether they prove it to have any disadvantages. What I have to say may be put under three heads, namely, sloughing, secondary hæmorrhage, and paralysis.

Sloughing is reported to have followed in eight of the operations recorded in the table. Six of these operations were performed in the Bellevue Hospital, one in the Brooklyn City Hospital, and one in the Mount Sinai Hospital. It will be profitable to present you with an abstract of each one of these cases:

CASE I. Bellevue Hospital.—Male, aged fifteen. Primary amputation at knee-joint, for lacerated wound of leg. Slight sloughing of each flap, but not enough to prevent healing.

CASE II. Mount Sinai Hospital.—Boy, aged three years. Primary amputation, according to Syme's method, for a railway injury of the foot. A small part of the flap sloughed, but not enough to prevent the covering of the stump.

CASE III. Bellevue Hospital.—Male, forty-nine. Primary amputation for lacerated wound of hand. The parts removed were the thumb and first metacarpal bone, the entire index-finger, and the second and third phalanges of the middle and ring fingers. Slight sloughing of the stump of the thumb and index-finger, but not enough to prevent healing, which was complete on the forty-second day.

Case IV. Bellevue Hospital.—Male. Compound, comminuted fracture of tibia and fibula, with simple fracture of femur of same side. Amputation through condyle, by long anterior and short posterior flaps, close to the line of laceration. Severe hæmorrhage had preceded the operation. About an inch and a half of the anterior flap sloughed, but the stump finally healed.

Case V. Brooklyn City Hospital.—Male, aged twenty-eight. Partial excision of carpal bones, for necrosis, resulting from a crushing injury received ten months previously. Two days after the operation, phlegmonous inflammation followed, with profuse discharge and sloughing, necessitating amputation of the arm. This was performed, and the patient recovered.

Case VI. Bellevue Hospital.—A feeble woman, aged seventy. Primary amputation of arm, for compound, comminuted fracture of forearm. Some sloughing of one flap; erysipelas on seventeenth day; bed-sore, and death from exhaustion.

Case VII. Bellevue Hospital.—Male, aged thirty-eight. Primary amputation at knee-joint, for compound fracture of bones of leg. The flaps were taken from parts infiltrated and contused. Spreading gangrene, which extended as high as the nipple; destroyed the patient on the fourth day.

Case VIII. Bellevue Hospital.—Male, aged thirty. Amputation at middle of thigh, by long skin-flaps, for a large, malignant tumor of the femur. The patient was in feeble condition at the time of operation, and did not rally well afterward. About one-fifth of each flap sloughed, and death occurred on the third day.

Case IX. Bellevue Hospital.—Male. Amputation above knee, for compound fracture of leg, caused by the wheels of a railway-car. Slight slough of outer flap, which did not prevent the healing of the wound.

On reviewing these cases, we find that seven of them were cases of primary amputation. As the whole number of primary amputations given in the table is forty-one, it follows that sloughing of the flaps occurred in seventeen per cent. So far as these figures are concerned, they prove nothing against the bloodless method; for it has been shown, by Dr. Figuera, that, at Bellevue Hospital, out of forty amputations, according to the old method, the flaps sloughed more or less in twenty-four, or sixty per cent.

Ten cases of sloughing are reported after secondary operations, these being nearly twelve per cent. of the entire number given in the table.

After a careful examination of the cases in which sloughing followed in primary amputations, I hardly feel willing to attribute the accident to the method employed. When we consider that some of these patients were intemperate, or feeble from loss of blood, that their injuries were severe, and that the flaps, which, in some cases, were very long, were generally taken from parts not far from the line of laceration, we are strongly inclined to regard these circumstances as the most important factors in the production of gangrene. It is, however, impossible to deny that the application of the elastic bandage may have had some share in causing this untoward event; and our suspicions are strengthened by the occurrence of gangrene in one case of amputation, which was not primary, inasmuch as gangrene, so far as my observation goes, is very rare in amputations performed for disease. In this case, amputation of the thigh was performed on account of a malignant tumor of the femur; and although the patient's general condition, prior to the operation, is stated to have been feeble, the gangrene of both flaps, which soon followed, compels us to suspect that the bloodless method may have been its determining cause. On the other hand, we must not fail to notice that the amputation was performed by long skin-flaps, which overhung, loosely, the end of the stump.

But the strongest case bearing upon this point is the one mentioned as having occurred in the Brooklyn City Hospital, and in which extensive sloughing followed an excision of the carpus. Dr. Speir, the attending surgeon, has kindly favored me with his own views respecting this case, and I quote from his letter as follows: "There is no doubt, in my mind, that the use of Esmarch's method was the cause of the sloughing that followed the operation, in the case to which you refer. I do not hold the method responsible, however, for there was, perhaps, unnecessary pressure made by the constricting band, although it was not greater than I have used in other cases, in which no sloughing occurred. Less pressure would probably have been followed by a different result; and I find, by later experience, that less pressure would have been sufficient to have fulfilled the object of Esmarch's method. Therefore I cannot hold it responsible. The proof that the use of Esmarch's method was the cause of sloughing in the case referred to is, that in the amputation of the arm which followed—performed by Dr. Kissam, my successor in the hospital-service—I controlled the brachial artery myself, with the view of deciding whether the bloodless method, or the patient's condition, was to blame for the sloughing. After this operation, the wound healed almost by the first intention. Esmarch's method is certainly a most excellent one, and I should be sorry to have this case bring any discredit upon it. It takes a little time to learn how to apply the new method properly."

With these remarks I cordially agree. Should future experience show that the employment of the bloodless method is a frequent cause of gangrene, we shall be obliged to abandon it; for this objection, once well established, would be a fatal one. It is greatly to be hoped, however, that, by a careful application of the elastic bandage, we shall be able to secure the benefits which it unquestionably confers, without any compensating disadvantages; meanwhile it will be prudent to abstain from its employment in certain cases, and, above all, to learn the minimum degree of pressure that will accomplish the desired result. The bandage should be soft and highly elastic, and the constriction of the limb should be made either by a piece of the same material, or, where this would be too wide, by a piece of soft rubber tube. The solid cord should, I think, be abandoned, as likely to do mischief. In applying the constricting band, much less force is needed than is commonly imagined, and with every additional turn the effect is considerably increased. Finally, the operation ought not to be needlessly prolonged. It is not easy to determine, however, for what length of time the state of artificial anæmia may be maintained with impunity; as, in several cases in the table, the elastic bandage was applied for an hour, and, in one case of amputation of the thigh, for one hour and forty minutes, without injurious consequences. Doubtless, however, the danger increases with the length of time the pressure is continued; and in amputations—which are shown to be the operations most likely to be followed by gangrene—the bandage need not be kept on longer than five or ten minutes. As bearing on the question of the cause of sloughing after the use of the elastic bandage, it may be well to bear in mind that, with a single exception, sloughing occurred only in amputations.

I have been unable to discover, in the cases of operation that were not followed by sloughing, any failure or imperfection in the reparative process, which could be ascribed to the method employed. The wounds have presented the ordinary character, and many of them have healed by the first intention.

Hæmorrhage is reported in four cases in the table, as follows:

Case I. Bellevue Hospital.—Male, aged forty. Operation for necrosis of lower end of femur. The wound, which was situated on the inner side of the limb, was deep, and bled pretty freely when the operation was concluded. It was plugged with lint, but the hæmorrhage persisted until the fourth day, when the wound was reopened, and a bleeding artery discovered, which was supposed to be the anastomotica magna. This was tied, and no further hæmorrhage occurred.

Case II. Bellevue Hospital.—Male, aged ten. Primary amputation of thigh at junction of lower and middle thirds. Shortly after the operation, bleeding took place from the medulla, and was arrested by the actual cautery.

Case III. Bellevue Hospital.—Male, aged twenty-seven. Partial amputation of the hand, for a severe crushing injury, received four days previously. After the operation, the limb was immersed in hot water. A week later, a hæmorrhage occurred, which did not exceed two ounces. The patient was terribly frightened, and died three hours after.

Case IV. Bellevue Hospital.—Male, aged twenty-one. Amputation of arm for compound fracture of forearm. Oozing of blood for some time after the operation prevented the adhesion of the flaps, but the wound healed by granulation.

In none of these cases, so far as I am able to judge, was the bleeding fairly attributable to the employment of Esmarch's method, and I am therefore disposed to dismiss, as invalid, the assertion that the method predisposes to the occurrence of hæmorrhage.

We find in the table only one case of paralysis; but this was well-marked, and occurred on the day following an operation, performed at the Roosevelt Hospital, for necrosis of the humerus. The operation was performed on February 9th. The constriction of the arm was effected by a solid rubber cord, but the duration of its application is not stated. February 10th.—Complete motor paralysis in forearm and hand. Tactile sensibility in finger greatly diminished. March 13th.—Examined by Dr. Seguin. Total motor paralysis of forearm and hand still remains. Electricity was applied, and the patient speedily improved. When he left the hospital, on May 10th, he had almost entirely regained the movements of flexion and extension, and partly those of supination and pronation.

Besides this case of paralysis, we find one of neuralgic pains, continuing for two weeks after an operation, performed at the Mount Sinai Hospital, for necrosis of the scapula.

The above are the only cases in which nerve-symptoms followed the employment of the bloodless method, and there can be no doubt that the mischief was caused by the undue pressure of the constricting cord. Langenbeck has reported three cases of paralysis of the median nerve, due to the same cause; and he suggests that an elastic bandage be used as a means of constriction, instead of the tubing or solid cord. This suggestion is a practical one, and its adoption will, it is to be hoped, prevent a repetition of the accident referred to.

We have no facts to enable us to prove the danger of rupture of the blood-vessels, from the pressure of the constricting cord, and it seems probable that such danger is no greater than when the tourniquet is employed. Finally, the caution which has been urged against the application of the elastic bandage over gangrenous parts, or over those which are the source of putrid discharges, is undoubtedly a wise one, and, so far as I can learn, has generally been observed by operating surgeons.

Enough has been said to prove that Esmarch's bloodless method is one of the most valuable surgical expedients that have been devised in modern times. It only remains, now, to determine the best mode, and the proper range, of its application.

Art. II.—*The Etiology of Congenital Syphilis, histologically considered.*[1] By J. E. Atkinson, M. D., Physician to the Baltimore Special Dispensary.

Congenital syphilis is described by the various writers upon the subject as having its origin in three possible modes. These are: 1. Through the male element of impregnation; 2. Through the female element of impregnation; and, 3. Through the circulation from the mother, consequent upon the nutritive processes of utero-gestation. There is, however, by no means a unanimity of opinion among these authors as to the relative frequency of these modes, and there are not wanting those who utterly deny the validity of one or the other of them.

The theory of infection through the maternal circulation manifestly lays claim to a greater facility of demonstration than either of the other two; thus, all its requirements would be fulfilled by cases such as the following hypothetical one: A woman, never having had a previous syphilitic lesion, at some time subsequent to her impregnation acquires the initial ulcer; her child, born alive, subsequently exhibits symptoms that are undoubtedly syphilitic.

Simple and plain as these requirements seem to be, the number of cases reported in favor of this theory of fœtal contamination is astonishingly few. Diday gives details of cases ("Syphilis in Infants," New Sydenham Society's Translation, pages 29–31), two of which, only, it seems to me, are unobjectionable; these are as follows: "Mr. P——, after having had a primary sore for some days, had connection with his wife, when she was in the seventh month of pregnancy, and gave her a similar sore. Baumès treated them both with Van Swieten's drops and sudorifics. The mother had, nevertheless, copper-colored papulæ on her forehead and ulceration of her tonsils. She was delivered of a child, apparently healthy, which was given to nurse to a young woman, in whom, when examined most minutely by Baumès, no disease was discovered. At the end of thirteen days the child had pustules of syphilitic ecthyma on the buttocks, chest, and cheeks. It was cured by mercurial treatment."

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[1] Read before the Baltimore Pathological Society, November 13, 1874.

"P. Dubois has published the case of a young woman, aged nineteen, who contracted, at the fifth month of pregnancy, a primary sore on the lower lip, which was soon followed by general symptoms. She was delivered of a child, which died on the eighth day with pemphigus and sanguineous infiltration of the lungs."

Lancereaux, however, does not hesitate to reject even these cases, and will not allow this mode of contamination; and the very paucity of instances recorded in its favor would certainly seem to give him some justification for his opinion.

The potency of the germ-cell or ovum as the carrier of the contagious element has certainly been assumed upon entirely insufficient grounds; for, admitting the liability to fœtal infection through the circulation of the mother, it becomes impossible to decide, upon any amount of inductive evidence whatsoever, whether or not an instance of congenital syphilis, derived from the mother, can be ascribed to any other source of contagion. In a word, no number of accumulated facts, relative to the transmissibility of syphilis to the fœtus, by a mother, herself the subject of the disease prior to impregnation, can, in the smallest degree, enlighten us as to whether her disease was transmitted through the ovum or through the circulation.

The male element of reproduction, however, it has been claimed, may be proved to be the direct vehicle of syphilis to the embryo, and that by the assistance of two lines of evidence, as follows: 1. A father having syphilis, either manifesting itself or existing potentially, yet latent at the moment of impregnation, may, through his semen, convey the virus of the disease to the embryo, the final result being the extrusion of a syphilitic child, the mother remaining healthy, although never having previously suffered from syphilis. 2. A mother, never having had syphilis, in due time after her impregnation by a syphilitic father, exhibits, without the previous occurrence of an initial lesion, symptoms of constitutional disease, derived from her fœtus.

Now, could either of these lines of evidence be proved, there would no longer remain any doubt about the question: we should be obliged to accept, as established, the theory of direct paternal transmissibility of syphilis. But what are the facts? Concerning the recorded cases adduced as settling the first proposition, by some of the very first syphilographers, such as Hutchinson, Diday, Vidal (de Cassis), Lancereaux, Ricord, Langston Parker, and others, most of their weight is due, not to their own intrinsic value, but to the eminent celebrity of their foster-parents; for, when we come to an examination of these evidences, supposed to be conclusive, we must be overwhelmed with the sense of their insufficiency. Thus, although symptoms of constitutional syphilis in the mother have not obtruded themselves upon the notice of the observers, certainly sufficient care was not taken to establish her freedom from the disease; furthermore, most of the cases, even as reported, justify the gravest suspicions as to the physical condition of the mothers, who either had certain lesions which were not regarded as specific, or else whose histories are lamentably deficient: the great majority of cases being so obviously devoid of definiteness of detail and scientific exactness of observation that they cannot for a moment be entitled to serious consideration. Even those cases which have been worked up with care and elaboration are singularly incomplete and unconvincing.

As, however, the object of this paper is not to disprove the theory of the transmissibility of syphilis through either the sperm or germ cells, but rather to cast discredit upon the evidences heretofore considered sufficient proof, and to offer other and more philosophical reasons for believing that such transmissibility is both possible and probable, I do not at this time propose to discuss in detail the cases supposed to be corroborative. For this purpose, I cannot do better than to refer the inquirer to a paper contributed by Dr. F. A. Sturgis to the New York Medical Journal for July, 1873, entitled "The Etiology of Congenital Syphilis." In it, in denying the possibility of transmission through the sperm-cell, and in reviewing the records upholding the theory, the author remarks: "In selecting cases for criticism, I have copied from those whom I believe to be the best and most trustworthy defenders of this doctrine, from such men as Hutchinson, of London; Langston Parker, of Birmingham; Diday, of Lyons, and others of equal weight. The result of this critical examination of cases is, it seems to me, the successful demonstration of their untrustworthiness." My own researches lead me to the conclusion that there are no instances to be found which will bear the close scrutiny required by the importance of the subject. The reporters have been, for the most part, content with the assertions of the woman or her friends, or there is no mention of more than a single examination having been made, or those important inquiries as to the immunity afforded the woman by a former attack of the disease, or as to its latency, are lacking, or else the subsequent history is not noted. That these objections are not captious must appear when we consider the great obscurity of symptoms occasionally experienced in syphilis, especially in women, or their insignificance, so that their evolution may have escaped attention, or the occasional inactivity of the disease; for, if a term of years may intervene between outbreaks of the malady (and this has been noted in cases in which the father was claimed to be the sole source of fœtal infection, when years had elapsed since the last manifestations in his own person),[1] then may we not be undoubtedly justified in demanding the strictest attention to every possible detail of research; and may we not be allowed, at least, to suspect an existence of syphilis, potentially, in the system of the mother, who to all external appearances has been, and continues at the time of observation, a healthy woman?

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[1] *See* Diday, "Infantile Syphilis," New Sydenham Society's Translations, pp. 17, 18; also Lancereaux, New Sydenham Society's Translation, vol. ii., p. 225.

So long ago as 1837, Colles, of Dublin, observed a fact which will go far toward destroying the credibility of those cases in which mothers are said to have given birth to syphilitic children, themselves remaining unaffected. This observation is as follows: *There has never occurred a single instance in which a congenitally syphilitic child infected its own mother (extra-utero); per contra, very many nurses have acquired chancres of the breast and consequently constitutional syphilis from contact with the specific sores of their nurslings.* So far as I have been able to ascertain, there is to this day no mention of a single exception to this rule. Surely, if the mothers who themselves nurse their offspring affected with constitutional syphilis (and, doubtless, they nurse them far more frequently than they allow them to be nursed by others), are not protected from contagion by the previous or actual existence of the poison in their own systems, we would have a fearful array of such instances. This fact must surely tend to throw the greatest doubt over the evidence afforded us by many recorded but imperfectly-observed phenomena.

Let it be remembered, however, that Colles's observation has no bearing upon the question of paternal transmissibility. It merely casts great discredit upon that evidence, *supposed* to favor the theory, which would persuade us that a syphilitic child may be born of a healthy mother. Aside from the strong negative evidence afforded by such observations as those of Colles, and the great want of accuracy and trustworthiness in the recorded cases of claimed direct paternal transmission (mother escaping), it must appear extremely improbable, in view of the intimate connection between the mother and child during gestation, that a woman can carry an embryo to full term, indued with syphilis by the male element of impregnation, herself escaping infection.

There remains to be considered the second series of proofs of direct paternal transmission of syphilis to the fœtus; that is, the instances in which women are said to become syphilitic only subsequent to their impregnation by a spermatozoid syphilitically infected. The difficulties attending the ascertainment of the existence of syphilitic lesions of the female genitals are notoriously great, and it is a fact familiar to every one in the habit of treating syphilitic persons, that in a large proportion of cases all knowledge of symptoms, preceding the constitutional ones, is honestly disclaimed by both males and females. Moreover, the symptoms of constitutional syphilis, especially the early ones, are very frequently overlooked or misunderstood. It is not claimed that such modes of infection do not occur, but only that the uncertainty and obscurity that necessarily involve them debar their being accepted as authentic and conclusive, or as more than corroborative of more exact data.

Granting the unreliability of the evidence usually adduced and accepted as proving the syphilis-carrying qualities of either ovum or spermatozoid, there remains no direct proof determining whether the disease may be communicated to the embryo by means of either reproductive element, or exclusively during the process of nutrition, subsequent to impregnation; nevertheless, believing that a fœtus may become contaminated by any one of the asserted modes of infection, it is necessary that I should state my reasons for entertaining this view.

Abandoning the method of searching for light by the routes that have been so frequently and unsatisfactorily traveled, it seems to me that the promise of success is from the consideration of—1. The histology of the elements essential to reproduction and the nutrition of the fœtus. 2. The nature of the specific poison or virus of syphilis. 3. The mode in which this virus produces its peculiar morbid action upon the tissues.

The consideration of the first subject of inquiry offers us a field that has been tolerably well worked; and incorporated with the results of the laborers therein, is a good deal that seems certain, more that seems probable. In the first place, it has been ascertained as a fact that the reproductive cells, both male and female, are the product of epithelium; that they are, in fact, epithelial cells.

In the lower orders of the animal kingdom this is especially apparent. Waldeyer states ("Stricker's Manual," New Sydenham Society's Translation, vol. ii., page 188) that the ova of ascaridæ proceed from the epithelial cells of the ovarian tube; that (id., p. 189) from the hermaphrodite glands of certain mollusca, even in the same follicles, both ova and seminal corpuscles are found, which proceed from the epithelial cells lining the glandular follicles. At page 190 of the same volume is presented a diagram of the ovarian tube of Vanessa urtica, in which the various stages of development of epithelial cells, and the selection of certain of their number, and their further elaboration into ova, are represented. "In the common polyp, sperm-cells and germ-cells are developed in the same layer of indifferent tissue;" and in one of the sponges, Huxley observes that they are mingled together in the general parenchyma (Herbert Spencer, "Principles of Biology," vol. i., page 222, American edition). Waldeyer, in the monograph already referred to, also demonstrates by text and diagram, in the fœtal vertebrate, the evolution of Graafian follicles and ova from the epithelium of the ovary; and his general conclusion regarding the origin of the ova is as follows: "In all classes of animals they seem to be more highly-developed epithelial cells of the ovary, that have undergone some peculiar modification, so that the follicular epithelium and the egg-cells stand in direct genetic relation."

From what has already been said, the same generalization may be inferred to hold good concerning the sperm-cells. Owsgannikow ("Stricker's Manual," vol. ii., p. 155) supplies us with valuable evidence upon this point. He observed in the testes of the Salmonidæ the development, from the cells of the epithelium, of the young spermatozoids. La Valette St. George, not denying and not affirming that these cells are epithelial, declares them to be uni- and multi-nucleated cells. There need be, however, no further adduction of proofs in this paper bearing upon the epithelial origin of the reproductive cells, since biologists are generally agreed upon the subject.

The next question that arises is, To what extent are these cells differentiated, or more highly developed than ordinary epithelium cells? Although Waldeyer has just been quoted as expressing the opinion that they are "more highly-developed epithelial cells," other investigators, of no less authority, do not hesitate to declare their conviction that the sperm and germ cells have no special "elaboration fundamentally different from all other cells." Space will not allow such an investigation of this subject as its interest might demand; but I think I certainly can, in this place, do no better than refer to the remarks of Mr. Herbert Spencer, concerning this question, and quote somewhat extensively some of them occurring at page 221, vol. i., "Principles of Biology," American edition. His words are: "If, by way of demurrer to this view, it is asked, why other epithelium-cells do not exhibit like properties, there are two replies: The first is, that other epithelium-cells are usually so far changed to fit them to their special functions, that they are unfitted for assuming the reproductive function. The second reply is, that in some cases, where the epithelium-cells are but very little specialized, they *do* exhibit the like properties; not, indeed, by uniting with other epithelium-cells to produce new germs, but by producing new germs without such union. I learn from Dr. Hooker that the *Begonia phyllomanicata* habitually develops young plants from the scales of its stem and leaves—nay, that many young plants are developed by a single scale. The epithelium-cells comprising one of these scales swell here and there into large globular cells; from chlorophyll in their interiors, shoot out rudimentary axes; and then, by spontaneous constrictions, they cut themselves off, drop to the ground, and grow into Begonias. . . . Thus, there is no warrant for the assumption that sperm-cells and germ-cells possess powers fundamentally unlike those of other cells. The inference to which the facts point is, that they differ from the rest mainly in not having undergone modifications such as those by which the rest are adapted to particular functions. They are cells that have departed but little from the original type. Or, in the words suggested by a friend, it is not that they are peculiarly specialized, but rather that they are unspecialized; such specializations as some of them exhibit in the shape of locomotive appliances, etc., being interpretable not as intrinsic but as extrinsic modifications, that have reference to nothing beyond certain mechanical requirements."

From all these considerations it must be seen that, from the essential similarity of origin and history of the reproductive cells, *whatever susceptibilities to impressions from without are possessed by one, the other must be capable of.*

This proposition cannot be invalidated by the asserted fact that these reproductive cells, in man, are stated with much appearance of probability (the germ-cell especially) to be formed during an early period of embryonic life, and only then; for, this is true, in the first instance, of the germ-cell, only in so far as is meant the primordial ovum, consisting of a nucleus or germinal vesicle embedded in the surrounding mass of protoplasm: the zona pellucida, or vitelline membrane, forming with its contents what may be termed the mature ovarian ovum (Waldeyer), being a product of the follicular epithelium, either directly, or from the cell-nutrition resulting in the formed material of Beale, and not existing until the ovum is about to be set free by the functional activity of the surrounding parts. So, too, it may be said of the spermatozoid, that its condition, however inactive, was, prior to its assuming the form recognized as the mature male element of reproduction, that of an epithelial cell; these changes being of course consequent upon nutrition, are accompanied by additions to and subtractions from the preëxisting mass; so that it appears that, notwithstanding the early date of formation of these cells, they must remain, during their entire existence, subject to impulses from without.

Having indicated the origin of the reproductive cell in the epithelium-cell, for the purpose of ascertaining the virus-carrying capacity of either of these, it becomes necessary to discover whether or not there be any histological community of nature between them and those particles which, in the organism, are the carriers and distributors of the virus of syphilis.

Our knowledge of histology, as it exists to-day, does not justify a positive assertion of the possibility of tracing the relationship; for we lack definite information as to the most vital point of the argument, viz., the precise characteristics of the virus itself; so, also, is it not universally admitted that the genealogy of the epithelium-cell can be traced out. But enough is known to entitle one to the confident belief that such relationship will be proved to the satisfaction of all investigators as completely as it is now to the few who claim to have established it. The consideration of this question will consist in the citation of the facts and observations (that have been available) in favor of the theory of the derivation of the epithelium, and consequently the reproductive cell, from the wandering cell, the white blood-corpuscle and lymph-cell.

On page 39, of volume i., New Sydenham Society's Translation of "Stricker's Manual of Histology," the editor (Stricker) thus states the conviction of great histologists regarding the nature of epithelium-cells: "The development of epithelia from the cells of the connective tissue has already been maintained by many, by Burckhardt, by Virchow, and by Förster. Very recently Pagenstecher has stated that they procced from exudation-corpuscles; and Biesiadecki says specifically that they come from the colorless blood-corpuscles;" and, at page 38 of the same volume, he so far gives in his adhesion to the theory as to say: "It is even conceivable that the colorless blood-corpuscles are destined for the regeneration of the tissues of the animal body. Nor can any solid objection to this view be raised from the stand-point gained by a knowledge of the history of development. The blood proceeds, indeed, from a different germinal lamina to the epithelia, for example; but primarily all cells proceed from the segmentation spheres, and these again from the fertilized ovum. Lastly, who can determine what influences must be in operation to cause a segmentation spheroid to become an epithelial cell, and whether similar influences may not also act on young cells in the post-embryonal period?"

According to Biesiadecki the wandering cells exist normally in the rete mucosum, becoming more numerous in pathological conditions (pointed condylomata, eczema, etc.), and Pagenstecher claims that he can demonstrate transition forms from these ambulant to epithelial cells, and concludes that, therefore, the migrating cells become epithelial cells.—*Neumann*, "*Handbook of Skin Diseases*," American edition, p. 171.

As already stated, this theory of the development of the wandering cell into the epithelial cell has by no means met with universal acceptation; but sufficient facts are available to justify its adoption, provisionally, trusting to time and extended observation to definitely establish it. At all events, the various stages from the leucocyte to the wandering cell, and from the epithelium to the reproductive cell, have been pretty satisfactorily determined. (Also may we safely believe the statement of Recklinghausen, to the effect that the leucocyte is also the progenitor of the red blood-corpuscle.)

Passing by for the moment the discussion of the carriers of the syphilitic virus, it may be well to appropriately ascertain what may be the nature of the thing carried, that is, the virus itself. According to Mr. Hutchinson, syphilis must be regarded as one of the zymotic fevers; and this view, probable as it is, has met, on the part of syphilographers, with a strong disposition to its acceptance; certainly with no very decided opposition. Now, although the virus of syphilis has not been demonstrated to the eye or other senses (Lostorfeo's claim of discovery of syphilitic corpuscles in the blood having proved not well founded), there exists great reason to consider it as consisting of solid particles. Successful inoculations have only been obtained through the use of virus containing solid or corpuscular elements. But, although no actual demonstration of the virus of syphilis has, as yet, been attained, we have more positive information regarding that of other specific diseases: thus, the active principle of the vaccine disease has been recognized and separated from the mass of fluid; likewise the poisonous principle of glanders, of farcy, and of small-pox. These discoveries are for the most part due to the investigations of M. Chauveau, of Lyons, of Dr. Burdon-Sanderson, and of Dr. Beale.

This recognition of the active agents in the causation of zymotic diseases has been followed by very decided differences of opinion as to their essence: whether they are organisms, independent in their life and continuing their like by simple growth and reproduction, or merely "detached particles of a living organism" (Ross), or, in other words, detached portions of cells. Do they induce disease by a multiplication of themselves at the expense of the organism, or do they impress with their own morbid molecular motion those parts of the body similar in nature to themselves and with which they unite? Whatever may be the nature of these bodies containing the active principles of zymotic diseases, investigators are pretty well agreed that it is through the corpuscular elements of the organism that they perform their offices; that in the blood and lymph tracts the leucocytes and lymph-cells (of which Recklinghausen says, "The lymph-corpuscles are now universally admitted to be identical in all their characters with the colorless corpuscles of the blood"), and their descendants in the tissues, are either used up as the pabulum of these "independent organisms," or, as is ably and convincingly argued by Dr. James Ross, in his work upon the "Graft Theory of Disease," they must unite with the "detached portions of a living organism," after the manner of the reproductive cells, and acquire from them a perverted molecular motion, which evidences itself by the resulting symptoms of the special zymotic disease.

Assuming the accuracy of these conclusions of different writers concerning the origin of both germ and sperm cell in the epithelium-cell, and of this latter in the leucocyte, which is declared to be the contagium-bearer of the human blood (and, in the present state of science, evidences are daily accumulating in support of them), the following deductions may legitimately be drawn.

1. A syphilitic mother may primarily infect an ovum, which may subsequently become impregnated:

2. She may, the ovum escaping, subsequently infect the embryo through the bioplastic elements of her own blood, during the process of nutrition.

3. A syphilitic father may also, through the sperm-cell, infect the germ-cell impregnated by it, the result being a syphilitic embryo.

These results appear to me far more satisfactory than those heretofore reached, clinically; for, as already remarked in this paper, by such methods it cannot in the first place be decided whether a syphilitic father may primarily infect the embryo, since definite proof of the mother's immunity cannot, or rather has not been had.

2. It is, and must always remain, impossible to decide when the mother has had syphilis previous to conception, whether the fœtal infection takes place through the ovum, primarily, or the subsequent circulation between herself and the child.

3. Positive proof of infection is alone capable of demonstration in those cases where syphilis has been acquired by the mother at some period during her pregnancy.

There remains to be noted the following point in the consideration of syphilis transmitted to the fœtus, and in it is also involved the whole subject of the pathology of specific diseases; it is this: why is it that a person, being syphilitic at the very time of impregnation, may become the parent of a healthy offspring? That such persons do beget healthy children sometimes is a fact of which almost all writers upon syphilis are cognizant, and which has appeared to be utterly inexplicable. The discovery, however, of the solid character of certain contagia, with the strong probability that that of syphilis is of the same nature, turns a flood of light upon this vexed question.

If the blood were universally pervaded with the poison-bearing principle, it would be impossible for any moist tissue in the organism to escape contamination; bones, cartilage, muscle, connective tissues, nervous system, viscera, all would be involved in the common calamity, in proportion to their moisture. That such a condition does not exist, we know, since, in their subjective and objective symptoms, not only syphilis, but all the zymotic diseases, express themselves by the selection of certain parts and certain individuals of those parts, for their special morbid manifestations. This must of necessity be so; for the universal involvement of these tissues, the various combinations of whose functions result in life, in a common and simultaneous perverted molecular motion, would be incompatible with its continuance, a fact which forces itself upon the attention in the treatment and etiology of the specific fevers; for, invariably, the powers of life succumb in these diseases in direct proportion to the intensity of the morbid action; in other words, that patient dies most certainly whose system is most intensely pervaded by the contagious principle. Now, contemplating this question, assisted by the light thrown upon it by recent investigations, we begin to apprehend that, the contagion not being a gaseous or liquid substance, a solution of the mystery is attainable.

The solid virus is able to effect its object only when brought into actual contact with other solid particles, which, in their turn, must meet still other solid particles; thus, the contagium, not being all-pervading, cannot be brought into contact with all the tissues capable of being infected, at least at one time. Now, when we reflect that there exist strong indispositions for the parts of many individuals to assume certain morbid actions, or to be strenuously affected by such actions; considering, in particular, the sluggishness of the syphilitic virus, completing its phases in months and years, where other contagious disorders perform their changes in hours and days; it becomes easily conceivable how certain lymph-cells and leucocytes, and the descendants of these, the epithelial cells, and consequently reproductive cells, may escape the fate that has befallen their brethren; so that a single seminal discharge may consist of sperm-cells both healthy and morbid, while the Graafian follicles may contain ova of like differences.

ART. III.—*Free Incisions, with Drainage-Tube, versus Paracentesis, in the Treatment of Pyothorax.* By G. WACKERHAGEN, M. D., Surgeon to the Southern Dispensary of Brooklyn, N. Y.

IN evacuating the purulent fluid in pyothorax, does paracentesis or do free incisions and the drainage-tube offer to our patient the best prospect of recovery?

Knowing the disastrous consequences so often resulting from this affection, and without statistics to guide us, this is a question worthy of anxious inquiry.

It has always been the aim of surgeons to remove all collections of fluid in the pleural cavity by a method of operation which will prevent the entrance of air. To accomplish this purpose may be of some importance when the fluid is serous, but, having determined, by the exploring trocar or aspirator, that the accumulation is purulent in character, it would appear more consistent with general therapeutics to give free exit to matter which, when permitted to remain in any cavity of the body, will prove detrimental to the general economy by causing septicæmia, and also by its mechanical hinderance to the normal functions of important viscera.

I am convinced from personal experience in treating purulent collections, that there is no danger in introducing air, provided the cavities are cleansed daily with antiseptic lotions. In this way we prevent the accumulation, and consequent decomposition, of the matter.

Since the introduction of the pneumatic aspirator, this method of removing purulent collections in pyothorax has become quite popular; but, when we inquire into the results of this treatment, we find that nearly fifty per cent. of these patients die, or the operation by free incision is performed as a last resort.

I believe that there are no benefits to be derived from the pneumatic aspirator over the ordinary trocar in pyothorax, and that we lose valuable time by the persistent use of either of these methods. Writing on this subject, Prof. Hamilton [1] says: "The only safety for the patient is in prompt and thorough evacuation. For this purpose, the surgeon may employ Flint's apparatus, or any instrument supplied with a canula and stopcock to prevent the admission of air; but when this explorative operation has fully decided that the contained fluid is pus, and not serum, it will be proper, indeed, it will be better in all cases, to make at once a free incision, and hereafter to treat the case as we have before directed in cases of traumatic pyothorax."

In a clinical lecture delivered at King's College, London, by John Wood, F. R. S., reported in the London *Lancet*, July, 1874, Mr. Wood says: "In children and young persons otherwise healthy, one complete removal of the pus may be followed by immediate adhesion of the lung to the pleura, and no subsequent deposit take place; but in adults my own experience tells me that for the most part the successful treatment of empyema becomes ultimately one of free incisions, and the establishment of effective drainage, and thorough washing out and cleansing with antiseptic fluids."

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[1] Hamilton, "Principles and Practice of Surgery," pp. 701, 702.

Of treatment with the drainage-tube, Prof. Gross[1] says: "The use of the drainage-tube has lately been recommended under such circumstances, but the treatment, it seems to me, should not be encouraged, as it is both harsh and dangerous."

In order to arrive at some definite conclusion as to the method of operation to be preferred in the treatment of pyothorax, I have, with considerable painstaking, succeeded in collecting the results of 38 cases; 29 of these were adults, and 9 were children. Of 10 adults operated upon by paracentesis alone, 6 recovered, and 4 died. Of 3 children operated upon by paracentesis alone, 1 recovered, and 2 died; the rate of mortality, including children and adults, being a little above forty-six per cent.

Of 11 adults operated upon by free incisions into the pleural cavity without drainage-tube, 8 recovered, and 3 died; and of 6 children operated upon by the same method, 2 recovered, and 4 died; the rate of mortality being a little above forty-one per cent.

Of 8 adults treated by free incisions and drainage-tubes, 6 recovered, and 2 died; the rate of mortality after this method of treatment being only twenty-five per cent. No children were reported as treated with drainage-tube. In all of these eight cases, paracentesis had been performed several times, it having proved unsatisfactory.

Taking these facts into consideration, we infer that free incisions are to be preferred to paracentesis, and that the use of the drainage-tube as a method of treatment is worthy of primary consideration.

The following case of pyothorax, resulting from pleuro-pneumonia, is of special interest:

Mr. H., a gentleman, aged thirty-nine years, by occupation a merchant, was attacked with inflammation of the lower lobe of the left lung, on the 20th of last February. Previous to this time he had always enjoyed good health, excepting an attack of yellow fever at New Orleans in 1865. Notwithstanding the application of the general and local treatment usually prescribed in these cases, the inflammation rapidly extended, invading the whole left lung. On the 25th of February the lower lobe of the right lung was attacked, but did not pass further than the second stage—resolution taking place about the seventh day. In the left lung, however, the inflammation had evidently reached the third stage, with some pleuritic effusion. On the 5th of March Drs. C. L. Mitchell and J. E. Clark were asked in consultation. The patient had lost appetite for any kind of nourishment; pulse 125, temperature 103° Fahr., respiration 26. The pleural cavity was about half filled with fluid. Blisters were again applied, and other remedies administered to promote absorption. Sulphate of quinine was also administered, grs. iij, every four hours, with Burgundy wine, beef-tea, and oyster-broth.

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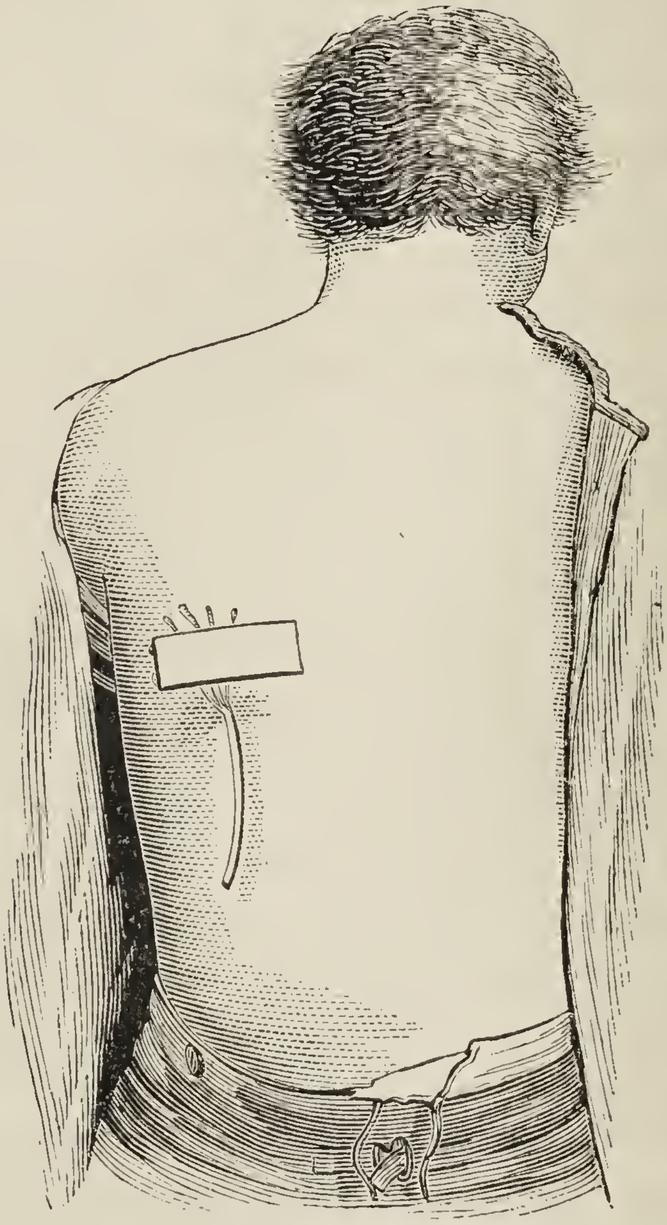
[1] Gross, "System of Surgery," fifth edition, vol. ii., p. 454.

The improvement from this time until the 7th of April was very gradual, when the patient began to lose strength and appetite rapidly, and complained of sore-throat. Upon examination a diphtheritic deposit was discovered covering the hard palate and fauces. Quinin. sulph. increased to grs. v, every four hours. A solution of carbolic acid was applied with the steam-spray apparatus every two hours, and brandy substituted for the wine. The throat complication disappeared in about a week, followed by marked general improvement. By the 26th of April the effusion was so much increased in quantity, that the left pleural cavity was nearly two-thirds filled, and on examination it was discovered that an opening existed in the lung communicating with the pleural cavity.

Mr. H. was decidedly losing in weight and appetite, with symptoms of pyæmia. Pulse 140, temperature 104° Fahr. The following day we determined to remove the fluid, and for this purpose employed the pneumatic aspirator of Dieulafoy. Having removed sixty-eight fluid-ounces of pus, threatened syncope induced us to discontinue the operation. Mr. H. experienced great relief after this operation. The pulse became more full and less frequent, the temperature much diminished, and the appetite considerably improved. This operation was repeated (followed by an injection of carbolic-acid solution, which was also withdrawn) as often as the fluid reaccumulated, and the general condition of the patient seemed to demand, viz., on the 1st of May fifty-one fluid-ounces, on the 21st of May thirteen ounces, and on the 3d of June twelve ounces, of very putrid pus mixed with blood. After the last operation with the aspirator, the patient was not at all benefited, but continued to grow worse until the 15th of June, when his condition was so low that it was feared he would not recover, and I proposed free incision and drainage-tube. This proposition was agreed to by the consulting physicians, and on the following day, having administered an anæsthetic, I made an opening with the scalpel into the pleural cavity, immediately over the seventh rib. A large quantity of offensive matter was discharged, and after cleansing the cavity by injecting a solution of carbolic acid with a Davidson syringe, I introduced a quarter-inch rubber tube, keeping it in place by several silk threads attached, and fastened to the back by adhesive plaster, as represented in the cut.



Visiting the patient at night, I found him none the worse for the operation. The next morning his condition was greatly improved; he stated that he felt much encouraged, and that he had not passed such a comfortable night in three months. The pulse was reduced to 105, temperature 102° Fahr., respiration much diminished in frequency, and he had some appetite for breakfast.

From this time he improved rapidly; the appetite increased daily, the hectic disappeared, and by the 3d of August he was strong enough to go to the country. The injections of carbolic acid were continued through the drainage-tube every second day. The discharge gradually decreased, and after a month spent at the Catskill Mountains he gained twenty-one pounds. On the 8th of September he returned to the city in excellent health, and resumed business.

The tube has not yet been removed, although the discharge is very slight. There is no contraction of the thoracic parietes, and the lung seems to have fully expanded.

Clinical Records from Private and Hospital Practice.

I. — *Case of Normal Ovariotomy; Recovery. St. Luke's Hospital, New York.* By T. T. Sabine, M. D. Reported by George Hart, M. D., House-Surgeon.

A. B., aged twenty-five; single; United States; admitted June 17, 1874. Patient was perfectly well up to eight years ago, at which time, while menstruating, she took a cold bath, which was followed by cessation of the menstrual flow, and a very severe attack of neuralgic pain in the left iliac fossa and left limb, lasting seven weeks, and resembling, only in a much milder form, the pain which she has since suffered. The treatment was by leeches, wet cups, etc.

After this the catamenia became extremely painful, and dysmenorrhœa was constant for four years. At this time (four years ago), the dysmenorrhœa became more intense, and was accompanied by severe neuralgic pain, limited to the region of the left ovary. Patient remained in this condition until eighteen months ago, when there was a sudden increase in the severity of the attacks, probably due to frequent exposure to wet and cold. The catamenia ceased for three months, and corresponding to the menstrual periods there were attacks of intense ovarian pain, lasting about ten days. The treatment at this time was by leeches and ice locally, and the internal administration of morphine.

In the spring of 1873 patient suffered attacks of increased severity, the pain being so great as to produce convulsions, and was only relieved by chloroform.

In September, 1873, she was operated on at the Woman's Hospital in this city, for dysmenorrhœa, but without relief. Subsequently an operation was performed for vaginismus, with a similar result.

During the past year patient has hardly ever been entirely free from pain, and has been unable to bear the weight of the body on the left limb, on account of the severe pain which it excited in the region of the left ovary.

The medical treatment of the paroxysms has been the free administration of morphine. In 1872 morphine was given in doses of half a grain to a grain and a half, repeated as required. As the attacks increased in violence, morphine failed to give relief, and chloroform or ether was given by inhalation.

On admission, patient is in fair general condition. She can get about the ward on crutches, but cannot bear the weight of the body on the left limb, which is flexed and lies across the right as in morbus coxarius.

Physical examination reveals intense vaginismus, and exquisite tenderness in the region of the left ovary. By conjoined manipulation the ovaries can be easily felt, and are of normal size. After this examination, as after every previous one, patient suffered great pain for two or three days.

July 4th.—Patient was seized with a paroxysm of pain referred to the left ovary, so great as to cause convulsive action of all the muscles of the body, and which sol. morph. sulph. Magendie, gtt. xl, hypodermically, and repeated in half an hour, failing to control, chloroform was administered in quantities sufficient to relieve the pain. This was continued for six hours, when the suffering abated. Moderate relief was obtained for twenty hours, the pain being controlled by morphine, but at the end of that time she was again seized with a paroxysm which lasted, with intermissions, for three days, at times requiring the administration of chloroform in addition to large doses of morphine. Great exhaustion followed each severe paroxysm, and the patient was considerably prostrated by the prolonged attack.

19*th*.—Patient again suffered from an attack of unusual severity, lasting twelve hours, which was only relieved by chloroform ; and on July 26th another attack, lasting fifteen hours, was relieved by the same means.

Both were followed by extreme exhaustion and weakness.

31*st*.—A consultation was held, and removal of the ovary decided upon. Patient is failing in health and strength, and is very anxious for relief. General condition fair. Urine normal.

August 8th.—Operation by Dr. T. T. Sabine, Drs. H. B. Sands and J. L. Little assisting. Temperature of the operating-room 80°. Patient being etherized, an incision was made in the median line from a point five inches above the pubes downward to within an inch of the latter point. The fascia covering the rectus muscle was divided, the incision carried along the inner edge of this muscle down to the peritonæum, and after all hæmorrhage had ceased it was carefully divided upon a director.

The hand was immediately passed through the wound to the fundus of the uterus, and thence along the broad ligament to the left ovary, which was found free from adhesions, and was readily seized and brought out at the wound. An eye-probe, threaded with two carbolized cat-gut ligatures, was passed through the broad ligament just below the ovary, the ligatures firmly tied on either side, the ovary cut off with scissors, and the pedicle, which was perfectly dry, replaced in the abdominal cavity, into which only a few drops of blood had escaped from the wound.

Four silver sutures, passing through the abdominal parietes and peritonæum on either side, were introduced and the wound tightly closed. The integument was brought together between the wires by four silk sutures, and straps of adhesive plaster, with compress and bandage, applied.

The ovary was of natural size, and on section the stroma and capsule appeared normal. The very unusual opportunity was afforded of examining a corpus luteum, the exact age of which was known immediately after the removal of the ovary from the living body. The patient had menstruated just three weeks prior to the operation, and the corpus luteum, examined by Dr. J. C. Dalton, answered perfectly the description of the one represented in his work on "Human Physiology," page 566, of the fourth edition, excepting that it projected much more prominently from the surface of the ovary.

Evening.—Patient has rallied well from the ether. Complained of diffuse pain in the abdomen, which was controlled by morphine administered hypodermically. No nausea.

9*th.*—Last night patient was very restless and suffered much from abdominal pain, but is more comfortable this morning. Morphine has been administered hypodermically as required.

Menstrual flow appeared this morning, accompanied by the usual dysmenorrhœal pain, but none in the region of the ovary.

10*th.*—Patient passed quite a comfortable night, sleeping quietly for four hours. Toward morning more restless. Menstrual flow has ceased. Morphine administered by the mouth, still in considerable quantities. Very little constitutional disturbance.

11*th.*—Slept pretty well last night, but when awake was very restless, and suffered considerable pain in the abdomen. This morning is much better.

13*th.*—Doing remarkably well. Constitutional disturbance very slight.

15*th.*—All the silk and the upper silver sutures removed. Union perfect throughout the entire length of the wound. Is very comfortable, and almost entirely free from pain.

19*th.*—Suffered considerably last night from rectal tenesmus, which was in part controlled by suppositories. This morning an enema of castor-oil was administered, followed by a free evacuation from the bowels, which gave great relief.

30*th.*—Patient very comfortable and up every day.

September 7*th.*—Patient has been out on the lawn two or three times during the last week, and is entirely free from pain in the region of the ovary.

General health very much improved. The left limb, which at the time of admission was semi-flexed, so that the foot could not be brought to the floor, is now perfectly straight, and easily sustains the weight of the body in walking, although it is still weak from disease.

12*th.*—Discharged, cured.

29*th.*—Patient seen to-day. Can walk easily, and without limping, for a considerable distance. Has menstruated since leaving, the hospital, with entire absence of ovarian or dysmenorrhœal pain.

Record of pulse and temperature:

August 8th.—4 P. M., pulse 100, temperature 98°; 9 P. M., pulse 120, temperature 99°; 12 P. M., pulse 120, temperature 99½°.

9*th.*—6 A. M., pulse 98, temperature 100¼°; 10 A. M., pulse 98, temperature 99½°; 12.30 P. M., pulse 92, temperature 99½°; 4.30 P. M., pulse 98, temperature 99¾°; 9 P. M., pulse 108, temperature 101½°.

10*th.*—12.15 A. M., pulse 100, temperature 101½°; 5.30 A. M., pulse 120, temperature 101½°; 10 A. M., pulse 120, temperature 101½°; 5 P. M., pulse 108, temperature 101°; 11.30 P. M., pulse 108, temperature 101°.

11*th.*—6 A. M., pulse 108, temperature 101¾°; 10 A. M., pulse 108, temperature 99¾°; 6 P. M., pulse 120, temperature 100½°.

12*th.*—2.30 A. M., pulse 116, temperature 101¼°; 6 A. M., pulse 108, temperature 99½°; 2 P. M., pulse 112, temperature 100¼°; 6 P. M., pulse 112, temperature 100¼°.

13*th.*—6 A. M., pulse 108, temperature 99¾°; 6 P. M., pulse 108, temperature 100°.

14*th.*—6 A. M., pulse 92, temperature 99½°; 6 P. M., pulse 88, temperature 98¾°.

After this time, the pulse and temperature were normal.

Notes of Hospital Practice.

BELLEVUE HOSPITAL, NEW YORK.

Pleuro-Pneumonia. *Clinic by* Prof. A. L. Loomis.—Gentlemen: This patient, a negro, aged twenty-five, has been in the hospital two days, and he tells us that six days before entrance, that is, eight days ago, he was taken with a slight chill and pain in the side. He tells us, moreover, that after entering hospital he was taken with a chill of a more decided character, and that now he is worse than when he was first taken ill.

This at first appears strange, but when we have examined him more closely it will seem in accordance with the disease. His countenance has an anxious expression. The face is perspiring, but from the color of his race it is difficult to say whether or not it is flushed.

Another very important point to notice is the peculiar motions of the alæ nasæ, indicative of dyspnœa. The respirations are rapid (forty in a minute) and of a catching character. He has also cough. The pulse is 100, and the temperature $102\frac{4}{5}$°. When the chest is examined by percussion you hear a note, dull almost to flatness at the upper portion on the right side, but as you pass below the level of the third rib it gradually shades off. Posteriorly we have the same change. When we listen to the chest over the scapular region of the affected side, we get bronchial breathing and *râles*, varying from the larger to the more minute. Below the scapula, respiration is feeble, broncho-vesicular in character, and accompanied by *râles* of a crepitant nature. Anteriorly, in the infraclavicular space, we also have bronchial breathing with the smaller *râles*. The house-physician says that rusty sputa appeared yesterday.

The question for us now to settle, with all the facts so far obtained, is, What is the disease? Is it pleurisy, acute croupous pneumonia, or bronchitis?

We can exclude the bronchitis because of the dullness on the affected side.

The diagnosis therefore rests between acute croupous pneumonia, and acute pleurisy, or a combination of the two diseases, pleuro-pneumonia. We must now go back to the onset of the disease and find the nature of the attack. The patient says, as you may recollect, that the chill was barely appreciable, but that what he complained of most was pain in the side. This does not look like pneumonia, and it does look like pleurisy. Again, when he was admitted to hospital, the temperature was only 101°, too low for pneumonia; and now when it should be falling—for you know the crisis runs from the fifth to the eighth day—it has reached something over 102°.

But, on the other hand, we have the physical signs of pneumonia at the apex, on the right side, and rusty sputa appeared yesterday, the seventh day, whereas we should have seen it on the third day. The case at first presents seeming contradictions which clear away when we come to study it. The patient was first attacked with acute pleurisy, and shortly after entering hospital developed pneumonia, characterized by the chill, or, in other words, he had pleuro-pneumonia. In pleuro-pneumonia the pleurisy is the primary disease, and in it we find the pain and catching respiration leading symptoms throughout, as we find in the case before us. Resolution is established more slowly than in pneumonia, for if acute croupous pneumonia does not resolve on the eighth day, but continues with an increased temperature, we shall have one of two things, either an increase of the disease, or purulent infiltration of the lung.

It may be well here to consider how many varieties of pneumonia there are, and their pathological peculiarities.

In *croupous* we have an exudation into the vesicle, composed of fibrillated fibrine, white and red globules, and cells which are apparently modified epithelial cells. There is also an œdematous state of the wall of the vesicle.

In *catarrhal* we have also fibrine, but of a granular character, not fibrillated, and more abundant. There is also a proliferation of lymphoid cells.

It has been lately held that there is another variety—*desquamative*—which seems to me to be a variety of the catarrhal form. It is characterized by a plastic exudation into the wall of the alveolus, with a desquamation of the epithelium, and it is claimed that there are none of the ordinary products of catarrhal inflammation. There are other varieties, according to some observers, but I do not think it an advantage to multiply them.

To return to our present case, he began with acute pleurisy, characterized by an exudation of fibrine, with little or no serum, and, after entering hospital, developed a pneumonia, characterized by the chill. This pneumonia is in the upper lobe. You know that as a rule pneumonia occurs in the lower lobe, and, when it appears in the upper, presupposes some vice of constitution, such as phthisis or alcoholism.

As far as prognosis of the case is concerned, I do not think it is good as regards complete recovery. There is danger of phthisis, because, in pneumonia at the apex, there is a greater tendency to phthisis—when the case is not one of delirium tremens—than when the pneumonia is at the base.

Again, the prognosis is not so favorable in the black as in the white race, and in this patient there is considerable constitutional disturbance, and no tendency to resolve, and it is an important fact to bear in mind that delay in inflammations of the lung increases the tendency to consumption. There may have been a tubercular deposit, which was the starting-point of the inflammation, and this can only be excluded by the patient's rallying completely in a short time, say, within a month.

Death following Rhinoplastic Operations.—The interest of the following case depends on whether or not the operation directly or indirectly caused death from thrombosis of the cerebral sinuses—particularly the longitudinal.

The history given by the patient was, that the nose was lost by injury, and that syphilis had no influence in it. The palate-bone was partly necrosed, and the patient explained that this was caused by the same injury, some of the bones being driven downward through the roof of the mouth. While this explanation may be true, it cannot be denied that it is wonderfully like the ravages of syphilis.

The operation performed was that ordinarily practised, the flaps being taken from the forehead and turned down on the face. After two or three weeks the pedicle was cut, and a small portion excised, so as to remove the inequality at the bridge of the nose. Seven days after this second operation, convulsions appeared, and twenty-four hours afterward the patient died. At the autopsy the only lesions found were in the head. The periosteum over the bone immediately beneath the wound was loose, and the dura mater anteriorly was thickened, and adherent to the brain and skull. An abscess was detected anteriorly, extending as far down as the lateral ventricle. A thrombus was found in the longitudinal sinus, but not sufficient to close it up completely.

Dr. Janeway reports two cases of death occurring in this hospital, each a sequence of this operation. At the *post mortem* a thrombus was found in the superior longitudinal sinus.

Abscess in the Epiglottidean Folds; Laryngotomy, and Death.—The patient, two or three days before he was taken sick, was in excellent health, and engaged in Jefferson Market. After exposure to cold, was attacked with swelling on the right side of the neck, and on admission to hospital this was very marked on both sides, but particularly on the right. He suffered from dyspnœa, also due, as was supposed, to œdema of the glottis. The dyspnœa increased to such a marked extent, that laryngotomy was advised and performed. The operation relieved the dyspnœa, but shortly afterward the patient died of exhaustion. The autopsy showed that the swelling of the neck was due to a diffuse cellulitis, which had not yet undergone suppuration. In the epiglottidean folds, however, there was an abscess, which gave rise to the diagnosis of œdema glottidis.

Abscess of Sterno-Clavicular Articulation.—One week before presenting himself for admission to hospital, this patient detected a swelling in the sterno-clavicular articulation. There were no signs of impulse, or aneurismal bruit, and an exploring needle was carried into the tumor. No pus escaped, and the diagnosis was very obscure. Some time afterward a needle was again carried in, when pus was obtained. The abscess was then opened and found to communicate with the sterno-clavicular articulation. There was no history of injury or pyæmia.

ROOSEVELT HOSPITAL.

Suspected Abscess of the Brain.—The patient was a woman, aged forty-four, who entered the hospital service October 2, 1874. Six years before that, there developed a discharge from the left ear, which at times was constant, and of a serous, bloody, and purulent character. Two years ago had an attack of intermittent fever, which lasted three months, and was followed by an attack of erysipelas, affecting the left side of the face. Three years ago, detected a tingling of the right arm and leg, with pain in the lumbar region. Gradually the patient lost the use both of the arm and leg, and the sight began to fail. At present she can only read large print. Two months ago tingling occurred in the right arm and leg at intervals, but the mental vigor continued unimpaired; two months ago had an attack of bronchitis, attended with aphonia. On admission the aphonia was found to be complete, and at the time it is noticed she is deaf on the left side, and the hearing considerably affected on the right. The eyesight is also impaired. The right hand registers 90″ by the dynamometer, the left 20″. The power in the right leg is feeble, but in the left there is complete paralysis. Anæsthesia is complete through the whole of the left side, including the face. Headache has been an important symptom, and complained of mostly at the top of the head.

October 3d.—Urine normal.

8*th.*—Pain severe, and increased on pressure.

12*th.*—Headache intense, numbness of the right hand.

18*th.*—Headache continues.

22*d.*—Headache on left side increases steadily.

30*th.*—Discharge is constant, and made up of pus, blood, and serum.

November 4th.—Headache up to the present time was confined to the median line of the scalp, but now has passed one inch to the right.

23*d.*—Swelling and redness appear over the mastoid bone.

December 2d.—The patient requested to be discharged. The diagnosis of the case rests pretty clearly between cerebral tumor and abscess, and is made correspondingly clear in favor of abscess by reason of the otorrhœa. The treatment was mainly palliative, morphia being given to keep the patient comfortable.

CHARITY HOSPITAL, NEW YORK.

Two Cases of Xeroderma in Conjunction with Phthisis.—The patient was an ostler, who had been suffering from phthisis for six months and had cavities in both lungs. Three months before death a roughening of the skin appeared over the thighs and spread thence all over the body. The skin was dry and hard, and there was a deficiency of subcutaneous fat. The appearance of the surface of the skin was very much like tanned alligator-hide, and of a yellowish color—the scales being smallest on the face, larger on body, and largest on arms and legs.

The other case was nearly identical, but in a woman. There was, however, a strange complication of the phthisis. The mesenteric glands had undergone cheesy degeneration, and opened into the stomach by means of numerous fistulæ. As far as the cutaneous lesion was concerned, it had also continued for three months, and bore all the characteristics of the other—so much so, indeed, that if their faces were covered it would be impossible to distinguish between them.

Enlarged Abscess of Liver.—The patient had suffered from intermittent fever for six months, and had also a chronic dysentery. This was about all the history that could be obtained. An examination of the liver showed a large tumor extending down four inches below the margin of the ribs. The patient died of exhaustion.

Autopsy.—Nearly the whole of the liver was converted into an abscess, leaving in the lower portion only a sheet of transparent capsule. There was, however, in the upper part some healthy liver-tissue, and if the liver had been tapped in the ordinary place the trocar would have passed into the section of normal tissue, and no pus would have been obtained.

WOMAN'S HOSPITAL.

SERVICE OF DR. T. GAILLARD THOMAS.

Polypus of the Uterus.—Mrs. L., aged thirty-two years; married. One abortion nine years ago. No children. Menstruated at sixteen years. No dysmenorrhœa, but had a very free flow of blood. Since marriage has menstruated every two or three weeks, and latterly flows all the time. Two years ago detected the uterus increasing in size. She was examined last June by her physician, who found the cervix dilated, and engaged in it was found a round body which he supposed to be a polypus. Since that time she has suffered severe attacks of pain. On the 1st of August experienced a sensation as of something being expelled from the womb. Dr. Thomas examined the case, and found a large tumor presenting at the vulva. The sound failed to pass above the tumor, and the diagnosis became a matter of grave question between polypus and inversion. This was rendered still more obscure by the failure to find by conjoined manipulation a body corresponding in size to the uterus above the tumor. The hand was carried into the rectum and the uterus examined in that manner, but still the same difficulty was experienced.

Other medical gentlemen examined the case, but no uniformity of opinion was obtained. Traction was then made on the mass, and the appearance of the case rendered the diagnosis of polypus nearly positive. An *écraseur* was applied and the growth removed, when it proved to be a polypus. The uterus was examined again after the operation, and the cervix was found to be closed; the uterus itself was of very small size, but in position. One week afterward Simpson's sound passed readily to the fundus.

Rupture of Cervix and Perinæum; Operation.—Mrs. ——, aged thirty-two years; has four children. Her first labor lasted for fourteen hours, and occurred when she was nineteen years old. At her subsequent labors had no difficulty. Her youngest child is seven years old. Flooding took place three days after birth of last child and continued three days. Twelve months later hæmorrhage again appeared, and continued for six weeks. Has periodically attacks of what she calls cramps. An examination of the case showed a marked laceration of the cervix, with a rupture of the perinæum. When the patient was placed on her back, the anterior wall of the vagina pressed forward and presented at the vulva. The lacerated surface of cervix was first denuded and united by sutures, leaving only a small orifice for the os uteri.

The operation on the perinæum consisted in removing the mucous membrane of a quadrilateral surface, made up of two triangles, united by their base in the median line of the vagina posteriorly. Each side of the space measured about two inches, and, when the sides were approximated and united by sutures, there was resulting what Dr. Thomas calls the "perineal body." The sutures were introduced at the lower border of the denuded surface and carried up so as to keep the surfaces securely in position. The sutures were removed on the eighth day. When the surface was denuded, considerable annoyance was experienced by the oozing of small vessels.

Proceedings of Societies.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 25, 1874.

Dr. H. Knapp, President.

Report of Microscopical Committee.—Dr. Satterthwaite, on behalf of the Microscopical Committee, presented a report on the specimens referred to at the last meeting of the Society.

Tumor of Parotid Gland, presented by Dr. Post. A careful examination of this tumor showed that it was composed of different histological elements, proving it to consist of *chondroma*, *mixoma*, and *carcinoma*.

The *liver*, presented by Dr. Finnel, was almost entirely composed of medullary cancer.

The contents of the *cyst*, connected with the stomach, consisted of pus, with fat-granules and crystals of cholesterine.

The *tumor*, found in the neck and presented by Dr. Post, was a calcified lymphatic gland. There was no trace of osseous tissue.

Multiple Abscesses of the Liver.—Dr. SATTERTHWAITE presented, on behalf of a candidate, a case of multiple abscess of the liver.

The patient was aged fifty-five, and an inmate of the Presbyterian Hospital. Nine weeks ago he was taken sick with malaria, and for the past five weeks had jaundice, which was not improved by treatment. He entered the hospital November 17th, complaining of headache, pains over the loins, and dry cough. The body was of a saffron hue. The urine gave evidence of bile-pigment, with a trace of albumen. The spleen and liver were both enlarged, and over the liver there was considerable tenderness.

18*th.*—Suffered considerably from dyspnœa.

19*th.*—Was too weak to sit up. Morning, temperature $101\frac{7}{10}$°; evening, temperature $99\frac{7}{10}$°.

20*th.*—Dyspnœa continued. Morning, temperature $102\frac{2}{10}$°; evening, temperature $101\frac{5}{10}$°.

21*st.*—Died at 3 P. M.

Autopsy.—The body was of a saffron color. Heart normal. Lungs bound down by pleuritic adhesions. Liver contained multiple abscesses distributed over its whole structure, and mostly contained in capsules.

In the ductus communis choledochus, about half an inch from its orifice, were found calculi, which served as an obstruction to the passage of bile into the intestines. The spleen weighed seventeen ounces.

Dilatation of the Heart.—Dr. DELAFIELD presented a dilated heart, removed from a patient in Roosevelt Hospital.

He entered the hospital October 2d, and for one year previous had been suffering from occasional convulsive seizures, but, previous to that time, was perfectly well. The convulsions began with oppression in the epigastric region, and were followed by vomiting and pain. They only occasionally appeared; not more than five times during the whole year.

When he applied for admission into the hospital, there were few symptoms of any gravity. He was very robust, and to all appearances his health was very good. He remained thus till October 6th, when he was seized with another of his attacks, accompanied by pain in the epigastrium and vomiting. In a few days he had completely recovered.

15*th.*—Fell, and remained unconscious for a few minutes, when his pulse was examined by the house-physician, and found to number only 24 in the minute. An examination of the heart proved it to be enlarged, and irregular in its action.

Urine—specific gravity 1.020; contains casts and albumen; passes sixty-four ounces in twenty-four hours.

In a few days he rallied from this attack and did well till November 6th, when he was again taken with his usual seizure, but the pain was more severe. There was no dyspnœa, but the weakness increased till he died.

Autopsy.—HEART. Aortic valves insufficient, as were also the mitral. The ventricles were dilated, and the lungs congested and œdematous. The kidneys weighed twenty-two ounces, and gave evidence of chronic nephritis.

The stomach was of a dark-red color, from the congestion of its mucous membrane.

The case had considerable interest, in showing how the severity of the gastric symptoms could so mask cardiac disease. The immediate cause of death was œdema of the lungs, caused by the irregularity of the heart's action.

Double Aneurism of Aorta—Rupture into the Trachea.—Dr. W. H. THOMSON presented a specimen of aneurism occurring in a hospital patient.

The patient had emphysema, with chronic bronchitis, but the symptom that first drew attention to the true nature of the case was a stridulous cough. When the case was examined more closely a marked pulsation was detected in the supersternal space, accompanied by an aneurismal bruit. There was also a heart-murmur.

The patient did not complain of pain, nor was there any change in any of the special senses. No difference was noticed in the radial arteries.

As was before stated, the only symptom that would draw attention to the true nature of the case was the peculiar character of the cough, which at times was accompanied by dyspnœa.

November 24th.—The patient expectorated blood, and complained of dysphagia. At 6 P. M. the aneurism burst into the trachea, deluging the patient with about a gallon of blood.

Autopsy.—Two aneurisms of the aorta were discovered. one at the ascending, the other at the descending portion. The heart was not hypertrophied.

Anterior Staphyloma.—Dr. Knapp presented a specimen of staphyloma, sent to him by a former student of his.

The patient was hit with a china cup fifteen years ago, which resulted in an injury to the cornea. For ten years there was no special annoyance, but latterly there has been a tendency in the eye to increase in size, and for this deformity the patient had it removed.

An examination of a section of the eye showed a transverse scar. The iris was prolapsed and connected with this cicatrix. The lens was also dislocated anteriorly, and connected by a band with the cicatrix.

The strange point in the case was that there had been no difficulty for ten years.

Dr. Delafield said that in his observations pain in the eye was more often due to the state of the vitreous than to the state of the ciliary body.

Dr. Knapp acknowledged that this observation was quite new to him.

Stated Meeting, December 9, 1874.

Dr. H. Knapp, President.

Ulceration of Vermiform Appendix from Foreign Body.—Dr. Briddon presented a specimen for a medical friend, with the following history:

A young girl, of about fifteen years of age, was taken sick, complaining of severe pain over the lower portion of the abdomen, with a tendency to vomit. On the fourth day of the disease the pulse ran as high as 130 a minute. Tympanites developed, and on December 5th, the eighth day of the disease, the patient died with marked signs of peritonitis, the diagnosis of the case resting between perforation and pelvic hæmatocele.

Autopsy.—The abdomen was very much distended; the omentum was not adherent to the walls of the chest, but it was to the intestines. In the cavity of the abdomen, although there was considerable fibrinous exudation, there was no sign of fluid. The appendix vermiformis was gangrenous, and in it there was a foreign body much resembling a date-seed, but which may have been an enterolith, as it was unfortunately taken away before a section of it was made.

Adenoma of Testis.—Dr. HENRY B. SANDS presented a tumor of the testis, with this history: The patient was twenty-six years of age, but gave no history of syphilis. Thirteen months before entering hospital he complained of swelling of the left scrotum; this gradually increased in size, and on admission to hospital measured eight and a half inches in one diameter, by four in length. It extended up as far as the external abdominal ring, and gave discomfort only from its weight. The finger could be carried up to the ring and the growth mapped out, proving that it was not a hernia. Before entering hospital it had been tapped by his medical attendant, and four ounces of fluid withdrawn. No enlarged glands were found in the neighborhood. The tumor was removed a week ago, and since that time the patient has done well. It was submitted to Dr. DELAFIELD, who reported as follows: "Examined by the naked eye, on section it is found to consist of soft tissues, containing cartilaginous nodules, and small cysts about the size of a head of a pin. This cartilage is of the hyaline variety. One end of the tumor is red and gelatinous, and is supposed to be the remains of the testicle. When viewed by the microscope, numerous follicles are detected, a dilatation of which has caused the cysts. At the periphery of the tumor are the larger follicles; this may be considered from its formation an adenoma. In answer to Dr. SANDS, as to whether the disease began in the testicle or epididymis, Dr. DELAFIELD said that no trace of either could be distinguished.

Suppurative Osteo-Myelitis of Vertebræ.—Dr. Delafield presented a specimen of the dorsal vertebræ removed from a case in Roosevelt Hospital. The man was aged sixty-three, and two months before admission complained of losing flesh and of a steady pain in the lumbar region; beyond this pain nothing was complained of. No disease of the spine could be discovered, and aneurism of the aorta was searched for in vain.

March 12*th.*—Complained of inability to pass his water, which was removed by the catheter. 14*th.*—For the first time paralysis appeared in his legs. 21*st.*—Temperature rose to 101°. 28*th.*—Had a rigor.—*April* 12*th.*—Died.

Autopsy.—Between the seventh and eighth dorsal vertebræ the cartilage was destroyed. Pus was found in the connective tissue, and infiltrating the pia mater; here and there the cord was a little softer than normal. The medullary fat of these two vertebræ had disappeared, and in its stead there were pus and other cells. The case was rare, and could be considered one of suppurative osteo-myelitis running a rapid course.

Double Aneurism of the Left Ventricle of the Heart.—Dr. Janeway presented a specimen removed from a coroner's case. The history was imperfect, the only symptom the man was known to complain of was pain around the region of the heart. Immediately before his death he jumped out of bed, struck his head against the wall, and fell back dead. The only diseased viscus was the heart, which was found to have in its left ventricle two aneurisms. The larger was a sac about the size of a hen's-egg, communicating with the aorta and coronary artery above, and below with the ventricle, by two openings, one large, and the other a small slit. Around this sac was indurated tissue. The other sac was on the anterior wall, and smaller in size. The cause of his death was presumed to be cutting off of the supply of blood to the brain.

Sarcoma of the Ciliary Body; Pus in the Fundus of the Eye.—Dr. Knapp presented a case of an eye, which he had removed from a man aged forty. The patient was suffering from serous irido-choroiditis, and, when first seen, pus was discovered in the interior of the globe. A white, fleshy mass was also made out, which had its origin in the ciliary body, and proved to be a sarcoma. Suppurative choroiditis might be said to occur only from a foreign body, pyæmia, a malignant growth, as in the present case, and cerebro-spinal meningitis.

Loss of Eye from Foreign Body.—Dr. Knapp also presented an eye, which he had removed from a lady patient, aged fifty, under the following circumstances: The lady was sitting three or four feet from her son, who was cracking gun-caps with a toy-pistol; suddenly she felt a sharp pain in the eye, but next day she was comparatively well. In forty-eight hours the eye became sore, but there were then no alarming symptoms. An examination by the ophthalmoscope showed a small foreign body, an eighth of an inch in extent, and inability to see the fundus. There was a wound in the sclerotic and iris, and it was noticed also that there was limited tenderness over the anterior portion of the globe. Leeches and atropine were applied, and the patient allowed to remain for a short time. When the eye was next examined the inflammation was not much increased, but there was still less illumination of the fundus. It was decided by the consultation to enucleate, which was done. The vitreous was found streaked with pus; the fragment of the cap was found embedded in the retina; the lens was normal. If the patient had been seen within forty-eight hours the fragment might have been removed and the eye saved. Dr. Knapp said that in one case, similar to the one reported, a hook was introduced, and by means of the ophthalmoscope the foreign body was seen and removed; to-day that eye is as good as ever. An incision might be made in the sclerotic, and the foreign body taken out in that way without danger, if seen within forty-eight hours.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 3, 1874.

Dr. Austin Flint, *President.*

Nomination of officers took place for election at the first meeting in January, 1875.

The various committees reported for the past year, but chief among them was the Committee on Ways and Means, in regard to the erection of a building which should serve not only for the Academy but also for all other regular medical societies.

Proposed Building.—Dr. ANDERSON, the chairman of the Committee on Ways and Means, reported that the Academy had at its disposal $28,402, and, with this as a nucleus, it was hoped that sufficient increase might be obtained to procure a building which would serve as a medical centre, as a library, and as an institution where all subjects connected with medical matters might be prosecuted.

It was moved and carried that a recess of one hour be taken to obtain the views of medical men present, not members of the Academy.

A meeting was then called, which elected Dr. White president, and Dr. Eliot secretary.

Dr. WILLARD PARKER gave a brief sketch of the origin of the Academy, at a time when the profession in New York was in a state of chaos, and its progress up to the present time. He said that it grew out of the *Society for the Relief of the Widows of Medical Men*, and had in its time been the instrument of an immense amount of good, in bringing together different cliques, which, before that, had an independent existence.

It was high time now for the profession to have a home, and he believed that if the matter were brought before the community at large they would be quite willing to aid in the object.

Dr. FORDYCE BARKER, before passing to the consideration of the building, passed a high compliment on the young medical men of this city and country. He believed that the future medical literature of the country would surpass that of many of the older countries, and that even now it was in no wise a matter to be ashamed of.

The building which had been proposed would serve as a valuable agent in advancing the interests of the profession, and particularly in being the place for a medical library, where all the present scattered collections might be brought together.

It was only recently that he came across a magnificent library, that of the New York Hospital, situated away from the knowledge of the great majority of the profession. Many medical men before dying would be only too happy to bequeath their libraries for the use of the profession, if they thought that they could be placed in a fire-proof building where they would be safe.

The proposed building should be of a class that should be fire-proof, and should be specially constructed for library purposes, as well as for a home for members of the profession.

Dr. Peaslee coincided with the views of Drs. Parker and Barker, and was in favor of incurring indebtedness in procuring the building at an early date. If no more decided action was to be taken than had been hitherto, many of the present members would not live to see it.

Dr. Anderson, in answer to a question in regard to the views of the committee, said that no definite purpose had been settled on. The most feasible proposition was to buy two or three lots in a central location, and on them construct a fire-proof building. When they had obtained the lots they would be in condition to go to the public or the Legislature for help.

The building was intended to seat three or four hundred in the main hall, and have smaller rooms for meetings of committees and the smaller societies.

So far the committee had contributions from only eighty members, but in nearly every case the committee had been very favorably received.

Dr. Austin Flint coincided in the views of Dr. Peaslee as to pushing on the building at an early date, and not allowing the matter to pass by without any decided present action.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Annual Meeting, November 27, 1874.

The retiring President, Dr. Ellsworth Eliot, gave an historical account of the profession for the past year, referring particularly to the recent legal enactments in regard to practitioners in medicine. After the reading of the minutes the meeting was declared adjourned. The President-elect, Dr. H. B. Sands, then took the chair. He read a note from Dr. Austin Flint, President of the Academy of Medicine, asking the coöperation of the County Medical Society in obtaining a permanent abode for all the medical societies of this city.

Bloodless Operation.—The paper of the evening (which we publish in full elsewhere in this JOURNAL) was read by the PRESIDENT, on Esmarch's method of applying the elastic bandage.

Dr. JAMES R. WOOD said he had operated on twenty-five cases, aided by the bandage, and had not noticed any evil effects. He considered it a marked improvement in surgery, but thought the rope a disadvantage, and for this purpose substituted the bandage doubled on itself.

Dr. FRANK H. HAMILTON considered it a valuable aid in operating.

Dr. KRACKOWIZER said that he had operated with it for the first time over thirteen months ago.

It was important to use great care in applying it in cases where there was suppuration, so as not to force pus into healthy tissue, and for this reason suppurating surfaces should be bridged over so as not to allow such an accident to take place. Much injury might result from excessive constriction of the band, and for this reason the softer it was the better.

Esmarch has devised recently a clamp to secure the ends of the rope, but Dr. KRACKOWIZER did not think it was necessary, inasmuch as a tape tied round them was more convenient. He was of opinion that the webbing might act as a vehicle of septic matter, and for this reason he had never used it, substituting rubber hose slit up through the middle.

NEW YORK SOCIETY OF NEUROLOGY AND ELECTROLOGY.

Stated Meeting, October 19, 1874.

DR. MEREDITH CLYMER, President, in the Chair.

A MEMORIAL NOTICE of the late Dr. Jeffries Wyman, a Corresponding Member, by Dr. S. G. Webber, of Boston, was read by the President.

A memorial notice of the late Dr. Francis Edmund Anstie, of London, a Corresponding Member, by Dr. Alfred L. Carroll.

The special order of the evening was a paper "On the

Combined Administration, chiefly hypodermically, of Chloral, Morphia, and Atropia," by Prof. Roberts Bartholow, M. D., of Cincinnati, a Corresponding Member.

Dr. Bartholow began by stating the desirableness of further knowledge of the reactions which ensue when remedies affecting the nervous system are conjointly administered. He had to offer to the Society a condensed summary of the results obtained from the simultaneous administration of chloral, atropia, and morphia.

Chloral differs from chloroform, when injected subcutaneously, in the more decided systemic effects, and the less local impression on the sentient nerves of the former. As regards the systemic effects, the action of chloral is very much the same when administered hypodermically as by the stomach. The chief danger is an arrest of the respiratory movements.

Chloral does not exert any chemical action on atropia when the two are held in solution together—for dilatation of the pupil of a cat takes place when the combined solution is instilled into the eye. Dilatation of the pupil also takes place when they are administered hypodermically together.

An apparent antagonism is observed, as regards their action on the heart, when the solutions of chloral and atropia are placed in contact with the heart of a frog, when in position in the chest after division of the medulla, or when the heart is removed. The action of the heart is further found to continue much longer when a lethal dose of chloral is administered together with atropia. In rabbits the same result is produced by the conjoined administration of the two agents.

Atropia is found to prolong the chloral narcosis several hours in rabbits, and diminishes the sensibility to pain.

In man the excitant action of atropia hinders the occurrence of the chloral narcosis, but rather deepens the sopor, when it at last supervenes. The effects of atropia last much longer, and are apparently in no way prevented by chloral.

Morphia deepens in every way the effects of chloral. The author of the paper found, in the course of some experiments on himself, that many of the unpleasant effects of morphia are modified, as regards the wakefulness caused by the latter, but are not modified as regards the subsequent nausea, vomiting, headache, vertigo, and constipation. When the two agents are administered conjointly, a much less quantity of chloral is necessary in order to produce sleep.

These agents act much more favorably when administered simultaneously. Chloral causes sleep, morphia relieves pain, atropia prevents or lessens the depression in the respiration and cardiac movements caused by the other two, while it contributes to their cerebral effects.

These physiological studies are confirmed by the therapeutical results. The combination of chloral, morphia, and atropia, is adapted to those cases of *insomnia* caused by pain, or in which chloral or morphia alone merely increases the cerebral excitement—as in hypochondria, puerperal mania, etc. This combination is also indicated in cases of fatty and irritable heart. When *pain* is to be relieved, chloral is not so serviceable as the combination with morphia and atropia. The local administration—that is, the insertion of the medicament at the site of pain—is more effective than the merely systemic impression. This is especially the case in tic-douloureux, sciatica, and coccydynia, which are much more effectively treated by injections made in the neighborhood of nerves, the seat of pain. The combination of a local irritant and benumbing agent with a systemic anodyne is more curative than either used singly.

In cases of *muscular spasm*, the author of the paper had obtained excellent results from the combined use of chloral, morphia, and atropia, and he especially called attention to the efficacy of these agents in the *cramps* of *cholera*. Many cases of *spasmodic asthma*, *hay-fever*, etc., have been benefited by their conjoint administration.

The discussion of the paper was participated in by Drs. W. H. DRAPER, A. MCLANE HAMILTON, PUTNAM-JACOBI, BEVERLY ROBINSON, and BARTHOLOW.

An executive session was then held, and the Society adjourned.

Stated Meeting, November 16, 1874.

Dr. Meredith Clymer, President, in the chair.

Dr. J. W. S. Gouley presented some specimens of *curare*, and made some remarks on its sources of supply, history, and supposed composition, and its therapeutic uses. The South-American Indians make at least two kinds—one for their own use, and one of inferior quality for sale. The specimens exhibited were of the most esteemed variety, from the Rio Negro. As a therapeutic agent the various diseases in which it had been tried were named.

Dr. E. R. Squibb remarked that the curare hitherto used was obtained from various sources, and in some specimens strychnia and brucia had been detected. Being of such variable composition, the physiological action must greatly vary, and hence he thought that curare could not be brought into general therapeutic employment. Of any given specimen the dose could be ascertained only by showing first the physiological effects. Even if the alkaloid were discovered it could not be produced in sufficient quantity for general use.

Dr. J. W. S. Arnold had noticed that in the same gourd there was a weaker yellowish-gray external layer, and an interior dark glutinous mass, of much greater strength. He had noticed, too, that the poisonous dose was variable for different animals of the same species.

Dr. W. A. Hammond had obtained, some fourteen years' ago, a specimen of curare, of the kind known as "coroval," the action of which differed markedly from that of other varieties. Ordinary curare spares the heart, while paralyzing the voluntary muscles. The primary effect of *coroval* is to stop the heart. He had had no experience with ordinary curare; but, in a case of traumatic tetanus in a colored boy, he had tried coroval hypodermically; the effect was to lessen the spasms and retard the pulse remarkably; after the third dose, this cardiac retardation went on to failure. He believed curare to be purely vegetable, as microscopically he had failed to find animal *débris*.

Dr. J. C. Dalton said he could corroborate what had been said concerning the different effects of different specimens of curare. There is probably no regular formula for its preparation, each tribe having its own secret. It is evidently an extract, containing a large amount of vegetable matter. The failure to detect animal *débris* with the microscope might be accounted for by their destruction in the manufacturing process. Its action resembled that of an animal poison. He had noticed the difference between ordinary curare and coroval, in the influence of the latter on the heart. [Dr. D. exhibited several specimens of curare, some of which, though fifteen years old, had been lately used with prompt effects.] He thought that the great uncertainty of the substance was a bar against its therapeutic use.

Further remarks were made by Drs. A. FLINT, Jr., E. R. SQUIBB, J. C. DALTON, HAMMOND, and BEARD.

Dr. L. DUNCAN BULKLEY read a paper on "The Relations of the Nervous System to Diseases of the Skin."

After briefly reviewing the microscopic anatomy of the skin, the author alluded to the close physiological relations between the skin and other organs, evidently the result of neural connection, as shown in the various conditions cited, and passed to the consideration of pathological observations, which were found to be conclusive of the close connection between nerve-influence and nutritive changes in the skin, on which he rested his argument for the neuro-pathology of so many skin-diseases. While *nerve-section* or *nerve-abnegation* is incapable of exciting these disorders, *nerve-irritation* is abundantly able so to do; and it is nerve-irritation which is excited by the deposits of leprosy and syphilis, or by the circulation of the effete products of gout, rheumatism, scrofula, etc., or the ill-assimilated elements in dyspepsia, constipation, oxaluria, and the like. A large number of skin-diseases may be the result of reflex nervous action. The nerve-elements in eczema, urticaria, pruritus, prurigo, erythema, etc., are plain enough to make us desire a fuller knowledge of their relations.

A discussion followed the reading of the paper, by Drs. W. H. DRAPER, E. L. KEYES, etc.

The Society then went into executive session, for the nomination of officers, and adjourned.

Bibliographical and Literary Notes.

Art. I.—*A Practical Treatise on the Diseases of Women.* By T. Gaillard Thomas, M. D., Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, New York; Surgeon to the New York State Woman's Hospital, etc., etc. Fourth edition. Philadelphia: Henry C. Lea, 1874.

The latest edition of this well-known text-book retains the essential characters which rendered the earliest so deservedly popular. It is still preëminently a practical manual, intended to convey to students, in a clear and forcible manner, a sufficiently complete outline of gynæcology, and to initiate the inexperienced practitioner into the details of an art in which he may have had only inadequate opportunities for direct clinical instruction. So long as prevails our present absurd system of medical education, which permits persons to practise an art in which they have had no practical training, but at best have received only more or less thorough theoretical exposition, so long will hundreds of physicians, even several years after entering into possession of their diplomas, find themselves in urgent and daily need of just such books as these, and of which few so well fulfill their function; how well can, indeed, be less appreciated by a beginner than by one who has already experienced the embarrassments, perplexities, and mortifications, attendant on the task of reducing to practical rules the mass of undigested knowledge that he may have acquired in his college course. We think that, especially in these gynæcological days, a thorough study of such a text-book as Dr. Thomas's (and we know of none so suited for the purpose as his in English, French, or German) should be expected from every student as a preliminary to graduation, as much as study of a text-book on general practice, or a manual on auscultation and percussion; and for several years after graduation the entire volume would remain of service for frequent reference, while certain pages would be of permanent importance to any one engaging in the art of gynæcology.

The chapter on means of diagnosis contains several details in addition to those previously given. The introduction of the entire hand into the vagina of an anæsthetized patient, to facilitate explorations for tumors; a manœuvre for detecting small tumors or prolapsed ovaries in the *cul-de-sac* of Douglas; the use of the sound to rotate the uterus, while the left hand of the physician, placed on the abdomen, ascertains whether movement is thus communicated to a tumor that had already been detected there; Simon's method of introducing the hand into the rectum—are severally described and recommended. The value of abdominal palpation, combined with the use of the sound, is insisted upon with an earnestness that we should have supposed superfluous for a procedure so well known and of such obvious utility. Yet, according to Dr. Thomas's experience as a consultant, the method is "little appreciated and rarely practised." Among new instruments that have been invented to facilitate diagnosis since 1868, three are mentioned—Hunter's speculum, Neugebauer's speculum, and Dieulafoy's aspirator. The latter is justly recommended for the exploration of all pelvic and abdominal tumors—or even of the intestine and bladder. In 1868 Dr. Thomas said that he believed the laminaria-tents would soon disappear from use; but now, in virtue of their superior innocuity, he seems induced to accept Dr. Nott's preference for them. In the first edition no theory was advanced to explain the dangers incurred by the use of sponge-tents, and even now the author only ventures to say that his "*impression* is that the tent establishes a lymphangitis in the abundant net-work of uterine lymphatics," which inflammation spreads thence as in dissecting wounds. We think any one who had ever pondered upon the net-work of lymphatics that envelop the cervix, to the comparative exclusion of the body of the uterus, would accept this explanation with less hesitation than the author offers it.[1]

In comparing the chapters devoted to the description and treatment of special uterine diseases in the fourth and in the first edition, we find frequent indications of the desire of the author to enlarge the primitive scope of his work, and to raise it from the rank of an elementary manual, that compiles and reviews the opinions of accredited authorities, to that of an original treatise comprising the carefully-considered conclusions of a ripe personal experience. Rules for treatment are laid down with much more real precision than before, because the writer speaks with authority, and makes more positive choice between different methods. He does not intend, and does not attempt, to describe all that might be or that has been done; he is, perhaps, correct in supposing that here a parade of erudition would be more than superfluous; but with great clearness he explains to his reader, as he would to his office-student, what *he* should do in any given case, and the reader is generally well content to follow so successful a model. In regard to medical treatment (though not in other matters), where reference to others is made, we notice a large preponderance of American and local authorities. The most important new or original contributions to the treatment of uterine diseases contained in this volume, refer to surgical operations. Some others are based upon new views in pathology. Finally, there remain a few that are simple additions to what had previously been laid down. Thus in the local treatment of chronic endometritis, it is recommended to pass the probe bearing the medicated cotton through a cervical speculum. In the first editions the application of strong caustics to the cavity of the uterus is advised to be deferred until the practitioner shall have acquired the requisite skill in the use of milder ones. In the present edition strong caustics are discountenanced, as being less efficacious than the same substances in "alterative strength." Solid nitrate of silver, pure chromic acid, or fuming nitric acid, should not be relied upon for the treatment of chronic corporeal endometritis. We entirely agree with such prohibition, although opposed to so many authoritative opinions elsewhere, but the reason for it would be clearer were it traced back to the pathology of the disease, as described on page 256. The description corresponds tolerably to that, more minute, of Slavianski, and published in the "Archives de Physiologie," for January, 1874.[1] The caustics above mentioned could only destroy the utricular follicles which may be the original seat of the disorder; or else, when the disease has lasted long, and these or their epithelium have entirely degenerated—could only remove the infiltrated connective tissue which had supplanted the normal mucous membrane. The complete removal of such morbid tissue would expose the muscular fibres—as would the wholesale destruction of the granulations of a wound. The advantages or disadvantages of the method must be discussed from the anatomical as well as from the clinical stand-point. Ointments, formerly recommended, are now discarded as "inconvenient and disagreeable," Dr. Peaslee to the contrary notwithstanding. The question of intra-uterine injections is discussed at some length, but the historical basis for the discussion is acknowledged to be borrowed from an article by Cohnheim, translated by Kammerer in the *American Journal of Obstetrics.* But Dr. Thomas dissents from Cohnheim's conclusions, based upon experiments on the cadaver, which show that the passage of fluid into the Fallopian tubes does not occur as easily as might be anticipated. It is agreed that in corporeal endometritis "the sphincteric action at the os internum has been destroyed," and hence vaginal injections, which in the healthy subject, dead or living, do not pass the internal os, readily enter the cavity of the body, and produce violent uterine colics." But where the os internum is so much relaxed, theory and *post-mortem* observation both show that the metro-salpingian orifices are also open.

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[1] An excellent paper on this subject has been recently reprinted in Vollemann's collection of clinical lectures.

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[1] It results, from these investigations, that (in endometrites villosa) there is a disease of the mucous membrane, in which the superficial part, infiltrated by white corpuscles, consists of embryonic conjunctive tissue, with a surface deprived of epithelium.

In a series of propositions, Dr. Thomas reviews the most important facts connected with the employment of intra-uterine injections, together with the theory of their dangers, and with the means of avoiding the latter. The precautions advised may be summed up in two: 1. Be sure that the fluid can escape from the uterus; 2. Use it of such strength and temperature that the uterus will sustain no shock. These precautions are generally accepted, but are given here with details that would be extremely useful for the guidance of the inexperienced. In the proposition, however, that states the cause of death in fatal cases, we are surprised to find that the author accepts without discussion such hypotheses as "absorption of fluid, and subsequent phlebitis," or "sudden entrance of air into a vein," and groups them on the same plane as the single condition which is analyzed, namely, passage of the fluid into the peritonæum. Klemm's experiments with injection of blue ink, subsequently found in the venous system of the uterus and broad ligaments, *without apparent laceration*, would prove, if any thing, the possibility of endosmosis. The theory of laceration of the uterine veins, and direct penetration of air or fluid, though suggested by Simpson and supported by the case quoted from Bessems, seems to us extremely improbable. In any part of the human body except the neck, where the suction action of the inspiration tends to draw in air through the least opening in veins (the latter, moreover, kept distended by the attachments of the cervical aponeuroses), in every other locality, we submit, a fluid thrown against an open vein would simply be rejected with the blood that would run out, and could *not* penetrate against the blood-current. But in the uterus, especially the non-pregnant uterus, or one in which the mucous membrane had been altered by chronic catarrh, laceration, should it occur, could only open capillaries or blood-vessels of the smallest size. Who thinks of throwing foreign liquids into the circulation by projecting them against a bleeding, cutaneous ulcer?

The *curette*, that Dr. Thomas formerly considered as only applicable to the removal of granulations, the consequence of endometritis, he now recommends for the treatment of the disease itself.

The treatment of cervical endometritis is radically different from that advocated for the body of the uterus, in that it retains the application of caustics strong enough to destroy the cervical glands. Fuming nitric, and chromic acids, are recommended for this purpose. The reasons for this marked difference in the treatment of catarrh from the body or neck of the uterus, are nowhere given by the author. Clark's remark is quoted, that "the tendency of cervical catarrh is to the production of spanæmia;" but it is not shown, as it might be, that the constitutional symptoms are connected with the profuse drain of albumen from the blood, and that cervical leucorrhœa is, indeed, a species of albuminuria, *minus* the uræmia that complicates the albuminuria of chronic nephritis. This point has been well made by Beneke. The whole indication, therefore, is to arrest the discharge, and for this purpose the entire destruction of the cervical mucous membrane (now advocated by Dr. Thomas for the first time) is not a too heroic remedy. The insensitive parenchyma of the cervix, if not too much hypertrophied, will be the seat of little trouble afterward. In corporeal endometritis, however, the exaggerated secretion from the glands is far less abundant and of far less consequence than is the nervous irritation, perversion of nutrition, and disorders of circulation in the tissues of the uterus that underlie them ; and too energetic treatment of the lesser difficulty may not only fail to relieve, but seriously aggravate the greater.

We notice in this connection that, while cervical hyperplasia is mentioned as a consequence of cervical catarrh, the author omits to show its dependence upon the hypertrophy of the glands.

As might be expected, the principal modifications introduced into the therapeutical system of the author depend upon changes in his views of pathology. The most important of such changes are in regard to chronic and acute metritis, ulceration, flexions, fibroids, and rupture of the perinæum.

In the first edition of his book, Dr. Thomas adopted, without criticism, the average current opinions upon "inflammation of the uterus." He recommended the physician "to make the thorough understanding of inflammation of the non-pregnant uterus the basis of his education" in gynæcology. But, in the present volume, the doctrine of inflammation is entirely rejected; and the chapter formerly devoted to its consideration remodeled under the title areolar hyperplasia. This important change of base is justified by the authority of Graily Hewitt, Klob, Peaslee, Kammerer, and by analysis of even the opinions of older writers who have theoretically admitted the existence of true uterine inflammation. Thus Scanzoni already said: "The nature of the disease would then be, in an anatomical point of view, an hypertrophy of cellular tissue." Lisfranc called the same disease engorgement, and Courty follows him. Hodge also pronounces it "irritability of the uterus;" and Kiwisch, infarctus.

The essential characters of the morbid condition in question are, "distention of blood-vessels; effusion of serum; hypergenesis of connective tissue," the whole dependent upon over-excitation of the vaso-motor and excito-nutritive nerves," a "formative irritation;" and "this condition may be correctly designated by the name, areolar hyperplasia."

Dr. Thomas defends this designation against the criticism that has been addressed to it, as excluding hyperplasia of muscular elements. The fact that the so-called chronic metritis may, in the great majority of cases, be traced to subinvolution of the uterus after delivery, has led many persons to suppose, *a priori*, that the enlargement must depend upon excess of muscular tissue. Even *a priori* reasoning should, however, remember that the reduction to amorphous detritus of the uterine muscular fibre by fatty degeneration, and the reabsorption of that detritus, are two distinct processes. It might also be inferred, *a priori*, that subinvolution depended upon interference with the latter rather than with the former process, since muscular fibres can hardly fail to degenerate, as soon as deprived of opportunities for contraction.[1] Dr. West, indeed, reasoned exactly in this way, and an autopsy by Snow Beck, that Dr. Thomas quotes as the only one of which he has been able to obtain an account, lends a basis of fact to this rational hypothesis. The uterus was examined at an unknown time after delivery, when it was found to be three and a half inches in length, and its walls one and three-eighths inch thick. "The enlargement did not depend so much upon the increase in the size of the contractile fibre-cells, as upon an increased amount of round and oval globules with amorphous tissue. The blood-vessels were large, forming a complete and continuous system with the capillary net-work of the cavity."[2]

It is much to be regretted that Dr. Thomas has not been able himself to contribute *post-mortem* examinations toward the solution of this interesting problem. As is too often the case, in regard to all questions of anatomy, normal or pathological, he is obliged, having quoted Snow Beck, to quote the exactly opposite affirmations of Finn,[1] from the too succinct account given in the *American Journal of Obstetrics*, and to reconcile the opposition only by the hypothesis that the observations were made at different periods after delivery.

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[1] It has been well shown by Brayton Hicks ("Obstetrical Transactions," vol. xiii.) that the growing fibres of the uterus contract constantly throughout pregnancy—physiological action that is certainly necessray to their nutrition.

[2] In another article by Beck, in the same volume of the "Transactions," he states that "the contractile tissue may remain more or less increased in size. . . . The soft tissue also participates in the increased activity."

The variety of published *post mortems* of so common a disease as chronic metritis (so called) illustrates the carelessness with which autopsies are often made, only those organs being examined which are supposed to have been involved in the fatal disease. It is only on this account that there can be any validity in the excuse, "We know little about the pathological anatomy of such a disease, *because* it so rarely proves fatal," since it is evident that patients with chronic diseases are constantly dying of intercurrent affections.

When a woman begins to suffer from pain and increased weight of the uterus immediately after getting up from a confinement, the dependence of her symptoms upon subinvolution is easily recognized ; or else, as is done by Aran and Gallard, traced to a peculiar form of puerperal acute metritis, that has passed at the time unperceived (a singularly untenable opinion). It not unfrequently happens, however, that the patient does not complain until after a period of two or three months has elapsed. The uterus is then found enlarged. It seems to us that the absence of symptoms during the first period after delivery, when, at least, according to the subinvolution theory, the same enlargement existed, may be due to the persistence of hypertrophy in the muscular fibres of the uterine ligaments, especially the broad. Increased weight is not felt so long as increased power remains to sustain it ; but, if the involution of the ligaments be completed, while that of the uterus is arrested, the adjustment is destroyed, and the enlarged uterus becomes a burden.

It is worth noticing that Schroeder ("Handbuch der Spec. Path.," Ziemssen, Leipzig, 1874, Bd. x.), after quoting Thomas and Skene as authorities for the term "areolar hyperplasia," returns to that of chronic metritis. "It is a mere verbal contest whether the lesion be a conjunctive-tissue hyperplasia in an hyperæmic uterus, or the product of an extremely chronic inflammation. The therapeutics must be decidedly antiphlogistic, and the clinical symptoms are those of inflammation, hyperæmia, swelling, pain." Schroeder admits the origin of the disease in subinvolution, but remarks that Simpson insisted upon antiphlogistic treatment for this condition.

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[1] Memoir is in the *Centralblatt*, 1868.

We think the American text-book does better than its German contemporary in dropping the term "antiphlogistic" and the vague ideas connected with it. Depletion of the uterus, when practised, is not intended to deprive the organ of blood, but to accelerate its circulation, and thus favor the reabsorption of amorphous tissue. The therapeutics of this disease is a good deal modified by Dr. Thomas since his earlier publications. He lays the greatest stress on the removal of complications, as laceration of the cervix, displacements, granulations, cystic degenerations of the cervix, vaginitis. Depletion is more highly recommended than before. Constitutional alteratives, as iodides and bromides and corrosive sublimate, are left unmentioned, while local alteratives, as iodine and glycerine, are insisted upon with greater emphasis. Blistering with the actual cautery, formerly advised for cervical metritis, is not alluded to anywhere in the volume. "Cases requiring the use of" (energetic counter-irritants) "grow smaller and smaller in number in my practice as I grow older in experience," says Dr. Thomas. "Mild and lacking in vigor as the course" (of treatment described) "may appear, let any one test it side by side with the plan of using the acid nitrate of mercury, potassa fusa, and the actual cautery; of swabbing out the uterine cavity with nitric acid, or of leaving a piece of solid nitrate of silver to melt within it; and, unless his experience greatly differ from mine, he will feel that, in the former, he has reached a resting-place for his faith in the treatment of the most important of all forms of uterine disease. He will find his capacity for benefiting his patients has greatly increased, while his liability to injure them has markedly diminished."

On this subject, statistics, though scarcely possible in a volume of the present scope, would be extremely interesting.

We should be especially glad to know, with precision, what benefit has been derived from ergot, which Dr. Thomas recommends to be continued during a year or two if necessary. Whatever may be the fact, we opine that there can be found no solid support for the theory that ergot, "by its power of exciting contraction of the uterine tissue, diminishes hyperæmia, and lessens the bulk of the uterus." It has been pretty conclusively shown [1] that therapeutical doses of ergot will only exceptionally excite efficient uterine contractions, even in the early months of pregnancy; and it certainly remains to be proved that it will exert such "specific" influence upon the non-pregnant uterus. If there be already hypertrophy of muscular fibre, an agent that excited its contractions should tend to increase the hypertrophy, in accordance with the general law of the nutrition of muscular fibre. If, on the contrary, the "uterine infarctus" be composed of amorphous material and areolar tissue, the uterus, though enlarged, is in no more favorable condition than in any other non-pregnant state to respond to specific stimulants. Whenever ergot is beneficial, it can only be by diminishing the calibre of the uterine blood-vessels, and thus at once lessening the bulk of the organs directly, and also, by accelerating the circulation, favoring the reabsorption of detritus.

The frequent failure of ergot to arrest even the menorrhagia dependent on subinvolution, probably depends on the difficulty of contracting vessels embedded in resistant tissue that itself constitutes their walls. The same difficulty must be encountered in the ergotic treatment of uterine fibroids, of whose success Dr. Thomas expresses fair hopes. We believe, contrary to Dr. Thomas, that the theory of the treatment is to interfere with the nutrition of the tumor, not by exciting general uterine contractions that shall compress its mass, but by diminishing the calibre of the blood-vessels upon which its growth depends.

Virchow, and also Cornil and Ranvier, observes that the muscular fibre of the growing hysterome, like that of the pregnant uterus, is contractile, and that the tumor will be found hard or soft according as the fibres are contracted or relaxed at the time of examination. The contractility of a mass of neoplastic muscular fibres could certainly not be excited by agents acting upon the uterus through special nerve-centres, as, by some authorities, ergot is claimed to do. Nor can we at present affirm that contractions would be determined in the tumor in virtue of any special influence exercised upon smooth muscular fibre wherever found, for it has not yet been demonstrated that the action of ergot depends upon such influence. It is possible, however, that a partial anæmia, determined by ergot, would exaggerate and prolong contractions of the muscular fibre in the tumor, just as it has been shown to do in normal muscle; and in these tetanic contractions the blood-vessels may be still further compressed, and the nutrition of the tumor interfered with. This is confessedly an hypothesis, but one more in accordance with known facts than that which assumes ergot to exercise over the undeveloped fibres of the uterus the same influence as during the latter months of pregnancy or at term. As already said in speaking of subinvolution, a strong objection to any theory that attributes to excited contractility the diminution in bulk of a mass of muscular tissue, lies in the fact that the increased contraction of muscular fibre is the surest means of improving its nutrition. It is possible, however, even probable, that such tetanic contractions as are excited by ergot would not have the same effect.

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[1] Danyau, "Bulletin de l'Académie;" Levy, "De l'Hygiène publique;" Tardieu, "Infanticide."

Before leaving this suggestive chapter on parenchymatous disease of the uterus, we must not omit to notice that Dr. Thomas has no experience of cases which would justify Noeggerath's opinion that tissue affected with chronic metritis may be transformed into cancroid. The origin of the latter in epithelial tissue, while the former, according to the preceding descriptions, principally affects the connective tissue, already offers a presumption against the affinity between the two, that would be implied by such transformation.[1] In such debatable ground as cancer, however, it is well not to rely upon presumptions. The omission of a chapter on ulceration of the cervix, at first sight, seems to imply that the entire subject of cervical erosions is relegated to the symptomatology of other diseases, as we think, indeed, it might well be. It is, however, in reality retained under the title "Granular and Cystic Degeneration." It is admitted to be merely a symptom, but one whose urgency often requires special and prompt relief. The chapters on flexions and versions are especially full and valuable. The increased space allotted to these affections, and the increased minuteness with which their treatment is described, imply that Dr. Thomas attributes more importance to the one, and more efficacy to the other, than was formerly the case. A method is described for securing toleration of pessaries in chronic and rebellious cases of any form of version or flexion. In connection with some other preliminary treatment, the uterus is to be replaced by the sound, and held in a position the exact opposite of that to be corrected, during two or three minutes—this manœuvre to be repeated every two days for a week or more. After that a double tampon of cotton is to be applied (in cases of retroversion), one part in the fornix, to push the body of the uterus forward, the other in front of the cervix, to push the latter upward. After a month of such preparatory treatment, the pessary itself should be applied. Uterine pessaries hold a prominent position among surgical appliances, as a means of "palliation and cure." Injurious consequences are to be attributed "not to the instruments themselves, but to the improper manner in which they are very often used," and to "the carelessness with which they are allowed to remain *in situ* without observation." The pathology of flexions is much more fully discussed by Dr. Thomas than in his former editions, and a succinct but tolerably complete list of causes made out from the author's own observations, or from those of Rokitansky, Klob, Hewitt, and Virchow. "The etiology of cervical flexions is somewhat different from that of corporeal. It is, I feel satisfied, generally induced by pressure directly exerted upon the uterus by tight clothing, which forces it against the concave surface of the vagina. This surface gives the impinging part a slant forward, and keeps it thus bent. In nulliparous women, the cervical and the cervico-corporeal varieties preponderate in frequency over the corporeal, which is generally met with in multiparous women." This distinction is important, and not usually made.

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[1] Billroth emphatically denies the possibility of intertransformation of neoplasms composed of tissues that normally originate in different layers of the blastoderm.—*Surgical Pathology.*

For the relief of anteflexion of the body, a new pessary is described, and "with considerable hesitancy," on account of the difficulty of removing it after introduction. This instrument resembles an Albert Smith's pessary, whose larger extremity has been replaced by a ring that joins the other half by a hinge. At the part of the circumference of the ring which corresponds to the centre of the entire instrument, a short, upright stem rises, terminating in a bulb. This "rests just under the fundus, the ring receives the tip of the cervix, and the movable branches rest against the tissues under the pubes. This pessary sustains the anteflexed body perfectly."

"Irreducible flexion of neck, body, or both, is incurable except by two means: the use of the intra-uterine stem, or the knife. These cases are very commonly congenital, and one wall is well developed by excessive growth, while the other is dense, rigid, atrophic, unyielding." After discussion of the arguments for and against the use of the intra-uterine stem-pessaries, Dr. Thomas concludes by adopting them for the cases above defined, and again describes a new instrument to meet their indications. It consists of a solid stem, terminating in a round bulb, that is received into a shallow cup, held between the branches of an ordinary anteversion pessary. The stem changes position with every movement of the uterus. For latero-flexion the same instrument is recommended as the only resource whenever the displacement really requires treatment. In such cases, the anterior bow of the anteversion pessary is removed.

Our limits forbid us to make further quotations from these interesting chapters. We may say that the precision and minuteness of detail, in regard either to diagnosis or to the modifications of treatment required for the numerous varieties of uterine "dislocation,"[1] will be best appreciated by those who have had the most practical experience in the matter.

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[1] We prefer this term, as used by Hewitt, for it suggests by analogy the true importance of the disease, that is often overlooked or denied, because an inadequate theory assumes its necessary insignificance.

In the treatment of fibroids Dr. Thomas recommends enucleation with more confidence than hitherto. He says that by this method, combined with evulsion, he has already removed seven tumors varying in size from a hen's-egg to that of a goose, and all his patients recovered. Two others, however, died from efforts at dilatation of the cervix previous to operation. Two procedures are described, one for removal of the tumor at a single sitting, the other gradual, in which the fingers of the operator merely inaugurate the process which contractions of the uterus are excited to complete. In the second case, after dilatation of the os, a long crucial incision is made over the tumor, and the patient " put upon " the systematic use of ergot, which is expected to determine the expulsion. No statistics, personal or otherwise, are given in support of this method.

A new and special chapter is devoted to fibro-cystic tumors, and another to sarcoma of the uterus, formerly dismissed in a few words under the title of fibro-plastic tumor. The description is taken from Virchow. On the other hand, epithelioma, formerly ranked apart, is now described as a variety of true cancer, on the authority of Kiwisch and Waldeyer, as quoted " in an able *résumé* of the subject by Prof. Lusk." For the diagnosis of incipient scirrhus, Speigelberg's suggestion of the use of sponge-tents is indorsed with emphasis. Ordinary induration of the cervix softens under the dilating influence of tents, but the scirrhus remains unyielding and hard. Dr. Thomas remarks that even ulcerated cancer of the cervix may be mistaken by the inexperienced, being confounded with laceration of the cervix, papilloma, sarcoma, areolar hyperplasia accompanied by metrorrhagia — sloughing polypus — fibroids—syphilitic ulcer.

The discussions on pathology in this volume, however, while admirably adapted to the purposes of a text-book, are by no means the part by which Dr. Thomas's value as a gynæcologist is to be judged. The author's originality and power of independent judgment may be said to increase precisely in the following order of subjects : Pathological anatomy, especially of incurable diseases ; controverted details in normal anatomy or histology ; the precise action of medicines ; details in pathology of curable diseases that may be made to tell on the treatment; mechanical appliances; surgical operations. The expositions of the operation for rupture of the perinæum, vesico-vaginal fistula, inversion of the uterus, anteflexion, prolapsus, and ovariotomy, are all made in a tone indicating that the writer finds himself here most thoroughly at home, and in his favorite field of action. In regard to all, except vesico-vaginal fistula, original suggestions are made, either modifying the methods of other surgeons, or entirely replacing them by new. In the chapter on rupture of the perinæum, a most important idea is conveyed by the introduction of the phrase "perineal body."

The operation for irreducible anteflexion as performed by Sims has been modified by Dr. Thomas, who, instead of making a slit in the posterior wall of the cervix, removes with a double scissors a strip of tissue a quarter of an inch wide, extending from the os externum to the vaginal junction. By this means the danger of union of the lips of the wound is generally avoided.

A new operation is described for narrowing the vagina for the cure of prolapsus and cystocele. At first, a portion of the anterior wall of the vagina, the size of a buckshot, about half an inch on one side of the (prolapsed) cervix, is cut away. Through this opening is passed a director, which is gradually insinuated through the loose areolar tissue lying between the bladder and the vagina until it reaches a point near the uterus, when it is withdrawn. Through the channel thus made is passed an instrument shaped like a glove-stretcher, which tears the areolar tissue over a triangular space, of which the apex is at the urethra and the base at the cervix. A clamp is applied loosely, the separated vagina brought together by a suture, and folded so that it protrudes as two flaps turned face to face. The clamp is then adjusted and tightened, the hanging portion of the vagina cut off, and interrupted silver sutures applied.

This operation involves not the mere adhesion of the vaginal walls, but the entire removal of a portion; and this absolutely narrows the vagina by a cicatricial band, which is not susceptible of being sundered. It is comparable with the operation proposed for rupture of the perinæum.

The grand *pièce de résistance*, however, in any modern treatise on gynæcology, is the chapter on ovariotomy. The paragraphs devoted to the pathology of ovarian tumors are exceedingly clear and to the point; but in regard to them, as to all other pathological questions in the book, Dr. Thomas confines himself to quoting the opinions and researches of others, and contributes little or nothing of his own. He *is*, however, positive that the fluid of all the ovarian tumors operated on by him contained albumen, contrary to the opinion of Wells and Barnes, who describe a class apart, whose fluid is said to be deprived of it. In regard to the "ovarian cell," Dr. Drysdale's essay is quoted at length; but Dr. Thomas has not attempted to verify his investigations. The section on diagnosis is, however, evidently made up largely from personal experience; and in this connection Dr. Thomas repeats the remark, that the inexperienced diagnostician usually applies a much smaller number of tests than does the veteran. "The latter has been so often deceived that he knows his weakness; the former has yet to learn it." A list of *forty-one* possible mistakes is made out, divided into several classes, to be referred to: Abnormal thickness or tension of abdominal walls, distention of abdominal viscera, fluid accumulation within the peritonæum, cystic disease of other parts in the abdomen, development or displacement of other abdominal viscera, pregnancy (with various modifications), diseased states of pelvic walls and areolar tissue.

In statistics of operative methods for the cure of ovarian cysts, Dr. Thomas gives only his own in regard to ovariotomy. He mentions having injected iodine into certain cysts by means of the aspirator in several cases, but does not give the result of the experiment. He considers it, however, "as a most simple, safe, and effectual method, possessing all the advantages of that practised by Boinet, with none of the dangers." We think, indeed, that, until this method has been fully tried, Courty's adverse dictum in regard to iodine injections must be held in abeyance. Dr. Thomas considers that the new development of the tumor, when this occurs at long intervals, after an apparent cure by iodine injections, depends upon the growth of new cysts from the pedicle on refilling of the old sac. This explains why a cyst, originally monocystic and very fluid, will, after temporary arrest by means of iodine, subsequently appear more solid.

The two great causes of death after ovariotomy are peritonitis and septicæmia. The former may be excited immediately by the shock of the operation, but peritonitis occurring after recovery from shock depends upon much the same conditions as septicæmia. Among these, Dr. Thomas enumerates putrefaction of blood and the contents of the sac, putrefaction of the stump, phlebitis by ligation of veins, pus from lips of abdominal wounds, irritation from foreign substances. We think that to these, as a common cause of peritonitis and septicæmia, may be added exposure to the atmosphere, since this, besides its influence in paralyzing the blood-vessels of the peritonæum, and thus causing an afflux of blood to the part, certainly tends to induce changes in the fluids of the peritoneal cavity, which become an immediate cause of septicæmia.

Indeed, Dr. Thomas might, with advantage, have invoked the anatomy of the peritonæum to show that it is in fact an immense net-work of lymphatics, and that the peculiar dangers of its inflammation really depend on the rapid introduction of the septic products of inflammation into the blood, by means of lymphatic absorption from its cavity. Thus, while septicæmia may exist without peritonitis, secondary peritonitis cannot exist without septicæmia, and derives its chief significance from the latter.

These considerations fully justify the drainage-tube, now constantly used by Dr. Thomas. This differs from that proposed by Sims, in that it is inserted in the abdominal wound, just above the pedicle, and into the depths of Douglas's *cul-de-sac*, whereas Sims passed his tube through the vagina. This point was selected as the most dependent. But, as Dr. Thomas remarks, an incision made here opens a way for putrid fluids from the peritonæum into the pelvic cellular tissue, where they act like poison.

All the details of the capital operation of ovariotomy are given with Dr. Thomas's usual clearness and precision.

Our own conclusions after this not too long review are, that this treatise is extremely valuable both as embodying the experience of an able practical gynæcologist, and as comprising clearly, concisely, and with sufficient completeness, that which is most important for an ordinary practitioner to know of the experience of others. It is deficient in pathological research; its originality lies chiefly in the department of surgical operations and mechanical appliances; but here the volume is noteworthy and important. It contributes little to science, but much to art; the erudition, though not striking, is always to the point, and sufficient for the purpose for which it is designed; and the judgment, on nearly all matters where a judgment is ventured, is admirable; a modest reserve being maintained in regard to subjects upon which the author does not pretend to have data for an independent opinion. In a word, we should say that any one who intended to make a special study of gynæcology could hardly do better than to begin with a minute perusal of this book; and that any one who intended to keep gynæcology subordinate to general practice should hardly fail to have it on hand for constant reference.

Art. II.—*Second Annual Report of the Board of Health of the City of Boston.* Ending April 30, 1874. 8vo, pp. 149. Boston: Rockwell & Churchill, 1874.

This report contains, in addition to the usual mortality and health reports, with illustrative charts, an account of the operations of the Board, showing that they have been active in their efforts for hygienic reform. The recommendations of the Board for further reformatory measures are very good.

An able article on "Tenement-Houses" is contributed by W. L. Richardson, M. D.; also a valuable report of "Chemical Analysis of Articles liable to Adulterations," by J. M. Merrick, B. Sc. The eight samples of whiskey and five of ale and beer which were examined by Mr. Merrick were found to contain no injurious adulteration; two samples of whiskey had evidently been diluted. Several preparations of confectionery, and certain cosmetics and hair-dyes, were found to be very poisonous, and some articles daily consumed in food were more or less adulterated. The author thinks the reliance on the test of kerosene by the degree of temperature at which it ignites is not always safe. He says: "A few per cent. of naphtha or benzine will make an oil dangerous, yet this same oil may have a burning-point above 110° Fahr. The "flashing test," therefore, i. e., the determination of the degree of temperature at which an oil evolves, or rather begins to evolve explosive vapors, is the test that alone should be trusted in examining suspected burning-fluids. . . . An oil which does not evolve an explosive vapor below 100° Fahr., and does not itself take fire below 110° Fahr., is safe for ordinary lamps." Experiments by the author, and by order of the New York Board of Health for 1869, show that but few oils on sale are sufficiently pure to bear the above test.

Articles entitled "Reports of Expenditures" and "Schedule of City Property" close the volume. The report as a whole is very interesting and instructive.

ART. III.—*Cyclopædia of the Practice of Medicine.* Edited by Dr. H. VON ZIEMSSEN, of Munich. Vol. I., *Acute Infectious Diseases.* By Prof. Liebermeister, Prof. Lebert, Dr. Haenisch, Prof. Huebner, and Dr. Oertel. Translated by R. H. Fitz, M. D., C. P. Putnam, M. D., A. Van Holingen, M. D., J. V. Whittaker, M. D., E. W. Schauffler, M. D., F. E. Satterthwaite, M. D., L. A. Stimson, M. D., J. H. Emerson, M. D., N. Smith, M. D., F. Delafield, M. D., and H. Bridge, M. D. A. H. BUCK, M. D., Editor of American edition. 8vo, pp. xvi.–708. New York: Wm. Wood & Co., 1874.

THE volume bearing the above title is the first of a series, in process of republication in this country, which is intended for a complete system of practical medicine. Both the American editor and the publishers deserve praise for their efforts in presenting this great work to the profession in this country. While we should be loath to part with many of the smaller treatises on general medicine which adorn the libraries of so many physicians, we think a treatise embracing a full discussion of all the questions under that head is needed in this country; hence we hail with satisfaction the appearance of the compilation of Ziemssen.

The present volume comprises, besides Liebermeister's "Introduction to the Infectious Diseases," articles on typhoid, relapsing, yellow, and typhus fevers, cholera, plague, black death, dysentery, and diphtheria.

The definition which Liebermeister gives to infectious diseases is sufficiently broad, as it embraces all those affections which are believed to originate in the infection of the system, with certain peculiar poisons which have the effect of reproducing themselves indefinitely under favorable conditions. The diseases are classed, so far as infectiousness is concerned, in three groups: I. The "purely contagious," or those in which the disease is conveyed directly from one person to another, by emanations from the body, or by inoculation; such as measles, scarlatina, variola, typhus fever, puerperal fever, syphilis, etc. II. The "purely miasmatic," the germs of which originate from without, and which are not known to be reproduced within the body, so as to infect other persons secondarily; intermittent fever, for instance. III. The "miasmatic contagious diseases," which are not conveyed to persons directly, by contagion, but by means of special germs, which, having been reproduced within the body, undergo some change after leaving the body. "They have this in common with the miasmatic diseases, that the poison is first of all drawn from without; but they also differ from them, in the fact that the poison only originates outside the body when an affected body has furnished the germs" (p. 30). In this group are included typhoid fever, yellow fever, cholera, etc. The author believes, in order that any of the last-named class of diseases may be developed, that the *special poison* of the particular affections must gain access to the system. While emanations from sewers, privies, etc., may occasion ill-health, they will not occasion any of the diseases in question; but filth of all kinds, and water, afford admirable soil for their propagation; hence drinking-water so affected, or emanations from sewers and the like, are very frequent sources. We here express an entire assent to this view. It will account for the propagation of typhoid fever to an entire neighborhood in the remarkable instance recorded by Prof. Flint.[1] We may add that Lebert, in his introduction to "Relapsing Fever, Typhus Fever, and Cholera," expresses the same view, and discusses it at some length.

All the authors, except Huebner, entertain opinions favorable to a *contagium virum* or germ-theory. Huebner, in his article "Dysentery," says he has failed to discover by his examinations positive examples of germs in the intestines of patients dead of that disease, or in the excrements of the living. Liebermeister fully discusses the question, and, while he admits that the germ-theory is not absolutely proved in all cases, he thinks it affords a plausible explanation of the etiology of all the infectious diseases. Lebert says (p. 243), "In relapsing fever, we have at present in the spirochæta-like fringe very probably direct pathogenetic elements."[2] He is not a believer in spontaneous generation.

Liebermeister devotes 200 pages to "typhoid fever." He says since the *cold-water treatment* has been thoroughly carried out, it has been difficult to obtain typical cases for clinical instruction, except among cases brought into hospital tolerably late in the disease. Dr. Yale, in the November number of the New York Medical Journal, has explained the method of applying the antipyretic treatment as advised by Ziemssen.

We are glad to notice that Lebert in his article "Cholera Indica, Asiatica," recommends arresting the prodromic diarrhœa at once, in opposition to the elimination theory of Johnson, Watson, and others. The whole article is very excellent.

Oertel devotes 130 pages to the discussion of "Diphtheria." The author believes in its direct contagiousness, and at the same time believes in its miasmatic origin. He places it in the class of miasmatic contagious diseases of Liebermeister. All authorities nearly agree as to its infectiousness. Possibly it may properly belong to the above-named group, and become infectious on the same principle as typhoid fever and cholera, except that the required changes in the germs may take place *in the throat* as well as *outside the body*, as in that situation it is subjected to the same influences of air, moisture, and warmth. Great care should certainly be exercised in preventing its spread.

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[1] "Principles and Practice of Medicine."

[2] He does not corroborate the statements made by Salisbury a few years ago, in the *American Journal of the Medical Sciences*, in regard to the influence of the minute palmella-like fungus.

The author also believes that the disease is primarily *local*, but speedily becomes *constitutional* by the absorption of the special poison, and by septicæmia.

By far the greater space in *treatment* is devoted to the local management, or local measures to prevent constitutional infection. He approves forcible removal of membrane, except when it invades the larynx, for the reason that it is liable to increase irritation, the injured points of the mucous membrane favoring the absorption of septic materials. Oertel's theory is to induce suppuration as early as possible, which is accomplished by the frequent and continued application of steam. It (the steam) serves to allay local inflammation, prevent the further deposit of membrane, and separation of the membrane is induced by the suppuration. He also recommends washing or syringing the affected parts with antiseptic fluids, to arrest as far as possible the absorption of micrococci and septic materials. The internal administration of mineral acids, tonics, and stimulants, constitutes the sum of the general treatment. The author seems to regard as the immediate cause of sudden death in diphtheria, paralysis of the heart, and makes a point of guarding against the occurrence of heart-clot.

If the succeeding volumes compare favorably with the present, the work will be found invaluable to every student and practitioner of medicine. The work is not loaded down with reports of cases, but the discussion of most points of interest is sufficiently full. The editors have presented the book in neat style and good print, and made it as free from typographical errors as could be expected. The translators of this volume seem to have performed their work very well, and have taken especial pains to adapt the text to the appreciation of American readers. There is a copious index with the volume.

ART. IV.—*Transactions of the Pathological Society of Philadelphia.* Vol. IV., 1871–'3. Edited by JAMES TYSON, M. D., etc. Pp. xxiv.–250.

THE title of this very attractive volume is a sufficient guarantee of its favorable character. An interesting and impressive method of studying disease is, the perusal of the recorded history of cases in connection with the accompanying description of the pathological specimen. The Transactions of the Society for the past three years embrace the condensed report of cases illustrating nearly every phase of disease. The cases are arranged by classes upon an anatomical basis, making them very convenient for reference.

BOOKS AND PAMPHLETS RECEIVED.—Half-Hour Recreations in Natural History. Part I. and II.: Insects of the Garden. By A. S. Packard, Jr. Part IX.: The Stone Age. Theory of a Nervous Ether. Part X.: Origin of Metalliferous Deposits. The Phenomena of Sleep.

The Legitimate Influence of Epilepsy upon Criminal Responsibility. By Meredith Clymer, M. D. (University of Pennsylvania), President of the New York Society of Neurology and Electrology, etc. Reprinted from the *Proceedings of the Medico-Legal Society of New York.* Pp. 466.

Outlines of the Science and Practice of Medicine. By Wm. Aitken, M. D., F. R. S., Professor of Pathology in the Army Medical School, etc. London: Charles Griffin & Co. Philadelphia: J. B. Lippincott & Co., 1874. Pp. 593.

A Digest of the Acts of the Commonwealth relating to the Massachusetts Medical Society, together with the By-Laws and Rules and Orders of the Society and Councillors. Boston: David Clapp & Son, 1874. Pp. 30.

Address in Medicine delivered at the meeting of the British Medical Association in Norwich, 1874. By J. Russell Reynolds, M. D., F. R. S. London: J. & A. Churchill, 1874.

The Medical Use of Alcohol and Stimulants for Women. By James Edmunds, M. D. New York: National Temperance Society and Publication House, 1874. Pp. 96.

Hand-book of Therapeutics. By Sydney Ringer, M. D., Professor of Therapeutics in University College, etc. Fourth edition. New York: Wm. Wood & Co., 1875.

Observations on the Growth and Reproduction of the Red Corpuscles of the Blood. By Robert H. Bakewell, M. D., F. M. R. M. C., etc. Otago, New Zealand, 1874.

Address delivered before the McDowell Medical Society of Kentucky, at its Semi-annual Meeting, November 4, 1874. By Wm. T. Briggs, M. D. Nashville, 1874. Pp. 15.

Clinical Lectures on Diseases of the Urinary Organs. By Sir Henry Thompson. Third American edition. Philadelphia: Lindsay & Blakiston, 1875.

Accommodation and Refraction. A Review of Dr. Fenner's pamphlet. By Dudley S. Reynolds, M. D. Reprinted from the *American Practitioner*.

History of the Conflict between Religion and Science. By John W. Draper, M. D., LL. D. New York: D. Appleton & Co., 1875.

How do Spermatozoa enter the Uterus? By Joseph R. Beck, M. D. Reprinted from the *American Journal of Obstetrics*.

Constitution and the List of Members of the American Public Health Association.

Reports on the Progress of Medicine.

SURGERY.

Prepared by SAMUEL B. WARD, M. D.

Treatment of Aneurism.—Mr. Timothy Holmes delivered, during the past summer, at the Royal College of Surgeons, in London, a series of lectures on the above subject, which are reported both in the *Medical Times and Gazette* and the London *Lancet*.

In speaking of aneurisms of the lower extremity in general, the lecturer expressed his opinion that the treatment by ligature and by compression should each be complementary of the other.

Gluteal aneurism, the subject of the first lecture, is often difficult of diagnosis. When idiopathic, it has often been mistaken for abscess. If traumatic, absence of pulsation due to absence of a sac may lead to error; or, if not seen till some time after the accident, the inflammatory action in the vicinity may lead to the same error as when idiopathic. The rarity of the lesion does not tend, in a given case, to bring it at once under the surgeon's consideration.

The special difficulties of treatment in this region occasion variance in opinion between surgeons of the past and those of the present day, as well as individual difference in the doctrines taught among surgeons now living. The speaker reviews such measures as have been adopted for the relief of this condition, and offers his conclusions.

On account of its fatality, he thinks ligation of the common iliac should never be performed, and, although he does not eliminate ligature of the internal iliac, he doubts whether the symptoms are often urgent enough to demand it, as statistics show a fatal result in one-half of the cases operated upon. In spontaneous aneurism this operation is liable to failure from a diseased condition of the coats of the artery.

In this connection he also admonishes us to remember the fact that cases may undergo spontaneous cure, or, having reached a moderate size, may continue without farther advance, occasioning very little discomfort to the patient. To enforce this fact he relates several cases.

The method of Anel, i. e., the ligature of the artery as it reaches the tumor, he regards as serviceable in cases where the artery is not involved before its exit from the pelvis, and he thinks it is often very difficult to determine whether or not this condition exists. Even in traumatic aneurism, the wound of the artery may extend into the pelvis.

The chief objection to the old operation of laying open the sac and tying the vessel is the danger of retraction of the artery into the pelvic cavity, and resulting hæmorrhage. Another difficulty is the finding of the arterial orifice after the opening of the sac. He advocates the judicious employment of coagulating injections in some cases.

Mr. Holmes is disposed to attempt treatment by pressure, either intermittent or continued, applied to the aorta or common iliac. He would add to this galvano-puncture or coagulating injections. It is not a dangerous procedure, and, if a failure in a given case, does not preclude the possibility of success by some of the previously-mentioned methods of treatment. Large aneurisms in other situations have been cured by similar treatment. His conclusions are:

1. Gluteal aneurisms, both traumatic and spontaneous, are very favorably circumstanced for the treatment by either rapid or gradual compression, applied to the aorta or common iliac.

2. If this treatment does not succeed by itself, it may be supplemented by coagulating injection or galvano-puncture, performed while the patient is narcotized and the circulation commanded.

3. When such treatment fails, particularly in aneurisms with imperfect or ruptured sacs, when it is not contraindicated, the internal iliac must be tied when the surgeon thinks he cannot find the artery outside the pelvis. But, when the artery is accessible, the old operation or the operation of Anel should be practised, according to the size and extent of the tumor.

4. The ligation of the internal iliac artery is liable to failure, in cases of spontaneous aneurism, from a diseased condition of the coats of the artery, and should always be avoided when other means of treatment are available.

The principles of the treatment of inguinal aneurisms apply equally to those in the femoral region. For this reason, and on account of the frequent difficulty of differential diagnosis, or because they may coexist, these two kinds of aneurism are considered together.

Abernethy, in 1796, first showed the practicability of ligature of the external iliac. Statistics show a mortality of twenty-five per cent. only attending this operation; but, in some cases where it was successful, a cure was not accomplished.

These cases are not common, and are usually due to very free collateral circulation, when one or more arteries are derived from the main vessel between the ligature and the aneurism. This is perhaps the greatest drawback to the Hunterian treatment, and a great one when ligature of the external iliac is employed for femoral aneurism below the origin of the profunda. Amputation of the thigh has been necessitated by gangrene after ligature of the external iliac.

Mr. Holmes then spoke of the relative values of the treatment of femoral aneurism below the origin of the profunda, by ligature of the external iliac, and ligature of the femoral just below Poupart's ligament. Able surgeons appear about equally divided in their preference.

Erichsen and others fear gangrene and secondary hæmorrhage after the latter operation, and prefer ligature of the external iliac.

Mr. Holmes, after offering statistics, cannot see very great danger from gangrene. There is some danger from secondary hæmorrhage due to the not infrequent high origin of the profunda. In several related cases, the surgeon has in reality ligated the superficial femoral when he supposed the common femoral was in his ligature. To avoid subsequent trouble depending upon this mistake, Mr. Holmes recommends that the wound be carefully searched to discover the point of bifurcation of the common femoral, and, if it be above the point where the ligature has already been applied, advises that the profunda be also secured. He does not therefore banish ligation of the common femoral, but would employ either it or ligature of the external iliac, depending somewhat upon the patient's *physique.* If the patient's abdominal walls contain much adipose tissue, he would prefer ligature of the femoral.

The surgeons who advocate ligature of the common femoral have even gone so far as to prefer it to any other treatment for popliteal aneurism. This view the speaker unhesitatingly condemns.

The records of cases of inguinal and femoral aneurisms treated by digital pressure are very encouraging; but treatment by flexion "impedes the employment of compression and holds out little prospect of cure." If instrumental pressure is adopted in any case, it should be applied to the iliac artery. The old operation may be employed when we have a rupture of the aneurismal sac, or in recent traumatic cases.

The accounts of inguinal and femoral aneurisms treated by compression vary considerably, the results being less favorable in hospital cases than in private practice. Such results Mr. Holmes ascribes to dissipation and neglect of disease on the part of the patients, and imperfect application of the method by attendants. As a rule, rapid and total compression has been much more successful than when gradually applied. In six cases of aortic aneurism treated by the former method, three resulted in cures; in two the operation proved fatal; and one patient died finally from the disease. This is encouraging, as ligature of the aorta has always proved fatal. In the application of pressure to the aorta or iliac artery, there is always danger of contusion of the peritonæum and viscera, and prolonged anæsthesia alone is always attended with danger. On the whole, Prof. Holmes thinks where the Hunterian method is practical, as in many inguinal and femoral aneurisms, it is usually preferable to compression.

The treatments by manipulation, galvano-puncture, direct pressure upon the tumor, and distal pressure, are less frequently resorted to; still each has proved of service.

Arterio-venous femoral aneurism is not as uncommon as is usually supposed, the traumatic variety being much more frequent than the idiopathic. It has been ascertained practically that, where both artery and vein are ligated, circulation is carried on with little if any detriment to the limb. Other successful means of treatment have been to obliterate by compression the opening between the vessels, and then treat the case as an arterial aneurism; or to apply ligatures to the artery above and below the tumor. Arterio-venous aneurisms, particularly if idiopathic, should receive prompt and active treatment, lest the morbid changes in the arterial coats produce so great dilatation and such thinning as to render operation useless or fatal.

Aneurism of the profunda is sometimes difficult of diagnosis. On account of its depth from the surface it may be mistaken for a growth connected with the femur. It has been mistaken for aneurism affecting either the common or superficial femoral. The diagnosis may be best made by carefully examining to ascertain whether the common femoral is raised by a tumor beneath it, and whether circulation goes on in its terminal branches without impediment.

Mr. Holmes advises first an attempt at treatment by compression; this failing, ligature of the common femoral or external iliac, the surgeon using his own discretion.

Prof. Holmes briefly offers his conclusions upon the whole subject as follows:

1. That the operation of ligature of the external iliac artery has been, on the whole, fairly successful, as evidenced by a very small mortality in uncomplicated cases of hæmorrhage, and a mortality of about one-fourth in published cases of aneurism, a conclusion supported by the unpublished records of hospital practice, though a few cases of recurrence of the aneurism have occurred.

2. That the operation on the superficial femoral, for aneurism situated in Hunter's canal, is a very successful operation.

3. That the ligature of the common femoral is a perfectly justifiable proceeding; though whether more or less trustworthy than that of the external iliac artery we are not as yet in a position to judge.

4. That ruptured aneurism in the thigh has been treated with a large amount of success by the old operation.

5. That ilio-femoral and femoral aneurisms have been treated with a fair proportion of cures, in the few instances on record, by rapid compression applied to the aorta, or common iliac; but that there is no evidence to show that this treatment is less dangerous or more successful than the operation on the external iliac artery, when the latter is feasible.

6. That compression, especially digital pressure, has been applied to the treatment of inguinal and femoral aneurism with striking success, though in what proportion of cases we do not as yet know; that the comparative ill-success of this method in our hospital practice is more calculated to raise doubts of the efficiency of the application than of the soundness of the method itself.

7. That in rare cases direct pressure or even manipulation may be advantageous.

8. That arterio-venous femoral aneurism should be treated by double compression, applied to the vein and artery; which failing, Mr. Spence's method, of tying the artery above and below, is the most hopeful measure; and, when this is impracticable, either the old operation should be preferred or the case abandoned.

9. That spontaneous aneurisms of the profunda have been diagnosed, and successfully treated by compression.

10. That recent traumatic aneurisms of branches of the external iliac or femoral are best treated as wounds of these vessels; i. e., either by compression or by ligature at the wounded part.

In commencing the subject of popliteal aneurism, Mr. Holmes expressed much satisfaction at the encouraging results of its treatment, and thinks if it were not so often overlooked in its commencement, the proportion of cures would be augmented.

The peculiarities of the many cases met with, call for deliberation upon the prognosis and the method of treatment in each case. Mr. Holmes mentions five points to be taken into consideration:

1. Whether the sac is firm and elastic, composed of the greater part of the arterial wall or of consolidated areolar structure; or whether thin, as in aneurisms of rapid growth.

2. Upon what face of the vessel the opening between it and the aneurism is situated.

3. The form of the aneurism.

4. The rational signs; the rapidity with which the symptoms advance; the individual peculiarities of the patient, or what is termed his "constitution."

5. The presence of cardiac or renal disease, and disease affecting the blood-vessels in other parts of the body.

In an aneurism of slow growth the tissues immediately surrounding it become condensed, and the elasticity of the sac renders pressure more serviceable than where the walls are thin. In the latter cases pressure is dangerous and galvano-puncture useless. The resistance of different parts can be ascertained by observing the reëntrance of the blood after the sac has been emptied.

Different complications may arise as the aneurism presses on the ligaments of the joint, upon the bone, vein, or nerve, or grows toward the skin. If it presses on the bone, it may burst while yet quite small, as the pressure of each pulsation must be reflected with considerable force. The shape of the tumor will regulate the ease and rapidity with which coagulation will take place. If the opening into it is small and at an angle with the vessel, it will readily be occupied by a coagulum.

The mode of origin and the patient's habits will influence the development of the aneurism.

Statistics regarding the usefulness of compression are not yet very valuable, as the best means of making pressure have only recently been discovered. Thus far they show a success in about half of the cases. An aneurism, the sac of which is elastic and of condensed structure, containing some coagulum, submits best to this treatment, particularly if of slow growth. The rapid method has been rarely adopted. Gradual compression should seldom be prolonged more than a week if attended by no improvement, and digital pressure is infinitely preferable to instrumental. Pressure, in the cases adapted to it, rarely exposes the patient to immediate danger; still, rupture, suppuration of the sac, and gangrene, have occurred.

Statistics, carefully compiled by Mr. Holmes, regarding the Hunterian operation, show a mortality of one-seventh, that is, in cases where this was the primary method of treatment; and the proportion of failures to cure is about one-fifth.

In what way does unsuccessful compression influence subsequent treatment by ligature, was the next question discussed. Statistics of a small number of cases up to 1856 led surgeons to suppose the influence to be favorable. It was supposed that pressure had already enlarged the anastomosing branches, rendering the establishment of collateral circulation very speedy after the ligature, thus lessening the chance of the gangrene. This is true; but other facts, hitherto overlooked, counterbalance the benefit thus obtained. The compression method must produce considerable exhaustion, which will add to the danger of the Hunterian operation, and it also produces local injury to the vessel afterward to be ligated.

Statistics up to the present day lead Mr. Holmes to alter his view, and he now thinks previous compression lessens the chance of recovery after ligature. If, then, we can resort to but one of these methods, which is preferable? Thus far success is about equal in the two. A little less fatality attends compression, but rather more cures result from the Hunterian operation. Still, with the prospect of increased facilities for accomplishing compression, it will probably gain the precedence. After ligature the main vessel is always obstructed, but not necessarily after pressure. This must influence the usefulness of the limb. As has been stated, individual peculiarities must affect the choice of treatment.

Compression should be of such force as to check all pulsation in the tumor. Digital pressure, if applied by trustworthy persons, possesses advantages over any other form. There is no danger of sloughing of the skin; the force employed is more intelligently regulated; it is least painful; and has one prominent advantage, the easy avoidance of pressure on the vein, thus preventing the engorgement of the limb with blood. Mr. Holmes also advises the "one-artery system" of Walker—that is, not to change the pressure from the common femoral to the superficial. To aid digital pressure it is advisable to have a bag of shot weighing from eight to twelve pounds to rest upon the fingers, no person being able to properly apply muscular pressure for more than fifteen minutes at a time. Three hours and a half is the shortest period on record in which a good result was obtained; and, in about one-third of the cases, twenty-four hours have been sufficient.

If the rapid method is painful, pressure for two hours twice a day, continued for some time, has resulted in cure.

Unsuccessful genuflexion, unlike compression, Mr. Holmes thinks does not preclude success by other methods of treatment. It has been successful in about one-half, and where not resulting in cure rarely causes rupture or gangrene of the sac. Flexion, in most cases, produces scarcely perceptible inconvenience, it being a mistake to employ a painful degree of flexion. The most conspicuous examples of cures by this method—and by no means a small number of such—are those where no appliance, not even a bandage, was used.

The conditions favoring the employment of flexion are locally similar to those favoring compression. An important point to be observed is, whether temporary flexion controls pulsation in the tumor and is painless.

Not only the rapid method, but that by flexion for short periods at regular intervals, is deserving of trial. The success attending flexion is due to the mechanical impediment offered to the circulation by the angle formed in the artery; the approximation of the opposing arterial surfaces; and, in some cases, by the emptying of the tumor by direct pressure upon it. It sometimes resembles manipulation in its effect, in dislodging a small piece of coagulum which is entrapped in the aneurismal orifice.

If any foreign body is to be introduced into the aneurism, Mr. Holmes considers horse-hair less harmful than metal wire or catgut, as it does not "melt" in the blood.

Mr. Holmes thinks the mistake of aneurism for malignant disease may be pardonable when the growth slowly goes on, consolidation being nearly complete and no pulsation present. The conclusions derived by Mr. Holmes, from his study of this branch of the subject, are:

1. That rapidly-growing aneurisms with a thin or imperfect sac are best treated by immediate ligature, especially when caused by recent violence; and that the success of compression is doubtful in aneurisms growing toward the knee-joint, and in all others which advance rapidly.
2. That the Hunterian ligature has been about twice as successful in modern hospital practice in England as the results of the accepted statistics show it to have been.
3. That the results of the compression treatment in the same hospitals have given as yet about the same average as those of the ligature, but that these results might be much improved by a more careful employment of the method.
4. That too long persistence in compression is to be deprecated, as being likely to interfere with the success of the ligature.
5. That flexion is often successful when used so as not to distress the patient, and is worthy of a trial in all cases in which it stops or materially checks the pulsation, but should not be too long persisted in when it is not at once beneficial.
6. That we have no evidence showing the utility of, or the need for, the less usual forms of treatment, such as galvanism, coagulating injections, manipulation, temporary ligature, or the introduction of foreign bodies.

Aneurisms of the tibial arteries, usually traumatic but occasionally spontaneous, are commonly cured without very vigorous treatment. Pressure is serviceable, and even Nature unaided has accomplished cure. Cutting operations have been required in some cases. These aneurisms rarely reach any considerable size, being confined in their growth by the resisting surrounding tissues.

When the location is near the popliteal space, and the sac is thin, the treatment by ligature may be the best.

Spontaneous aneurism of an artery of the foot is unknown to Mr. Holmes, but he mentions one case, resulting from a sprain, which was cured by ligature of the anterior tibial.

REPORT ON OPHTHALMOLOGY.

By THOS. R. POOLEY, M.D., New York.

I. Knapp and Turnbull.—A Case of Glioma of the Retina, with Numerous Sub-periosteal Metastatic Tumors. *Archives of Ophthalmology and Otology*, vol. iv., No. 1.
II. J. Thompson and H. Knapp.—A Case of Retinal Glioma distinguished clinically by a Family Predisposition, and anatomically by the Obvious Origin of the Disease in the Inner Granular Layer. *Archives of Ophthalmology and Otology*, vol. iv., No. 1.
III. E. Williams and H. Knapp.—Two Peculiar Cases of Sarcoma of the Choroid. *Archives of Ophthalmology and Otology*, vol. iv., No. 1.
IV. Savary.—Tumor of the Orbit (Hypertrophy of the Lachrymal Gland). *Annales d'Oculistique*, March and April, 1874.
V. Annuske.—Optic Neuritis in Connection with Cerebral Tumors. *Graefe's Archiv für Ophthalmologie.*
VI. M. Reich.—On the Statistics of Neuritis Optica in Intra-Cranial Tumors. (Reprint from Russian *Military-Medical Journal*, July, 1874, and *Klin. Monatsblätter für Augenheilkunde*, June and July.)
VII. Hans Adler.—Scorbutic Hæmophthalmos—on the Treatment of Diseases of the Eye in the Wieden Hospital, etc. Extract from the Annual Report for '72 and '73, and *Annales d'Oculistique*, September and October, '74.
VIII. André.—Non-traumatic Dislocation of the Lens under the Conjunctiva. *Annales d'Oculistique*, September and October, 1874.
IX. Landsberg.—Ophthalmological Contributions—Coreotopia Binocularis. *Archives of Ophthalmology and Otology*, vol. iv., No. 1.
X. E. G. Loring.—Remarks on Embolism. *American Journal of Medical Sciences*, April, 1874.

I. The clinical history of this case is by Turnbull, the anatomical description by Knapp. The patient, aged three, was brought to the clinic for exophthalmos and total loss of sight of right eye. The mother said the eye became red and painful seven months before. Soon after, the eye protruded, and had a brownish-yellow pupil. When the patient was admitted to the hospital in December, 1872, the following record was made: Exophthalmos of about 2‴, sclerotic vessels enlarged and tortuous, circumcorneal injectiva $+T_2$, vitreous chamber filled with a yellowish lustrous mass, iris dull-brown and bulging, anterior chamber shallow, pupil slightly dilated and rigid. The movements of the eye were impeded, and there was a subcutaneous, hard, oval tumor, the size of a cherry-stone, in the right temporal fossa. Diagnosis of "glioma retinæ," with extension into the orbit, was made, and extirpationper formed by Dr. Knapp. The orbital portion of the tumor was almost as large as the globe itself. During the night the child had secondary hæmorrhage, arrested by plugging the orbit with sponges.

On the 8th of January the child was brought back. Both lids of the enucleated eye intensely ecchymotic, tumor on right temple increased to size of a pigeon's-egg, and pulsating. Six more tumors had formed in different parts of the cranium. Following these were other smaller ones constantly increasing in size along the sutures of the cranium. A recurrence of the pseudoplasm in the eye soon filled the orbit, distended the lids, and gave rise to hæmorrhage. Three new tumors as large as pigeon's-eggs then appeared, one behind the left ear, another on the right half of inferior maxilla, and a third on the right side of the neck, all of which grew rapidly, especially the one on the maxilla, by which the mouth was drawn to one side. The condition at this time is shown by a photograph. About the middle of January the left eye became swollen, ecchymotic, and protruded, but the sight remained good. Ophthalmoscope showed hyperæmia of retina and some swelling of the disk.

The child emaciated, became anæmic, the tumors formed very rapidly, and the exophthalmos increased, without any evidence of the brain participating in the morbid process, until the end of January, when there occurred a succession of tetantic convulsions, each lasting about ten minutes, leaving the child semi-comatose for nearly half an hour. It was noticed that, after six of these convulsions had occurred, the tumors, except the orbital one, shrank, and the smaller cranial one disappeared, leaving only slight depression, and for several days the child seemed to improve. Death occurred a few days later, from exhaustion, without cerebral symptoms. An examination of the body was made by Dr. Turnbull. The head was removed entire and put in Müller's fluid. A meridional section was made throug hthe eyeball, and episcleral tumor. Most of the globe was filled with a soft, granular substance.

The sclerotic which separated the intra-ocular and episcleral tumors was thinner, and under the microscope the communication of the two tumors was seen to be continuous through crooked rows of small, round cells. The orbital tumor filled the orbit, and penetrated through the superior orbital fissure of the cranium. Nothing abnormal was found in the interior of left eye. Section through the tumors on the outer surface of the skull showed that they were in connection with both the pericranium and bone, the surface of the latter being roughened and corroded. In one large tumor in the right temple, which was 2″ in diameter, the bone was so corroded that in its centre it was defective. The tumor of the lower jaw was depressed and rough in its centre, but elevated in the form of an osteophytic wall at the periphery, while its tissue was soft and vascular. There was a tumor of soft consistency at the inner side of the lower jaw on the opposite side, and one on the left side of the hard palate. The skull was of ordinary thickness, and on its inner surface showed depressions surrounded by vascular osteophytic excrescences. Corresponding to these depressions were soft, red tumors on the outer surface of the dura mater. The right middle cranial fossa was occupied by a tumor, which was exactly opposite to that of the right temporal fossa, and had the same appearance, structure, and nearly its size. Section through it showed the same relation to the dura mater and bone as the external tumors had to the pericranium and the bone. A similar smaller tumor, corresponding to the one in the left temporal fossa, was situated in the left middle cranial fossa. The right optic nerve was about double the size of the left. Another tumor, about the size of a filbert, apparently an extension of the orbital pseudoplasm, was found in the middle cerebral fossa. The inner surface of the dura mater was normal; sinuses mostly filled with dark, coagulated blood; veins of the posterior lobes enlarged and filled with coagula; capillary hæmorrhages in pia mater and peripheral portion of the brain-substance of posterior lobes. The rest of the brain was normal.

Microscopic examination showed in all the tumors the structure of glioma, or encephaloid cancer. The osteophytic formations, at the base of the subperiosteal tumors, manifested themselves under the microscope as spiculæ of cancellous osteoid, and osseous tissue. The formation of bone-substance took place with a pronounced line of demarcation which advanced into the gliomatous tissue. The newly-formed bone-substance was mostly cancellous, and the corrosion and solution of continuity of the skull at the base of the tumors are explained by the conversion of the original cranial substance into the same structure. The whole formation closely resembles those tumors described by Prof. Julius Arnold, under the name of "sarcomata with osseous spiculæ." Knapp concludes, as the tumors were in no connection with each other, nor the original tumor, that they may be pronounced metastatic. They differ, however, from the few cases of glioma metastases which are on record, in that the metastatic tumor did not originate in the diploë, but between the periosteum and the surface of the bone. The remarkable observation was made that, in some places, intra-cranial tumors corresponded to extra-cranial ones, which at first suggested the idea of their originating from the diploë. This was only apparent, for not only the diploë, but even the tables of the cranium, which separated the smaller tumors, were but little changed.

II. This case, which occurred in a child of twelve months of age, presented the usual symptoms of glioma, and was noticed by the parents about three months before Dr. Thompson saw the patient. A brother of the infant had been similarly affected when two years of age; perforation of the eyeball ensued six months later, and five months after the child died. A paternal cousin of the patient was attacked in the left eye in his second year, and died a few months after the disease declared itself. The father's aunt also lost two children, between the second and fourth years of their ages, with the same disease.

The anatomical examination by Knapp revealed total detachment of the retina. On its outer surface a yellowish-white, finely-granulated tumor, which extended from the retina at its emergence from the disk, into the vitreous, in one half of the eye. Some smaller flat tumors were seen in other places. Under the microscope all of the tumors showed the ordinary structure of retinal glioma. Sections through the smaller ones demonstrated that the pseudoplasm originated in the inner granular layer. This origin is illustrated by a diagram.

III. Knapp and Williams record two cases of sarcoma of the choroid which present peculiar features. The first case was that of a woman of forty years of age, who had an attack of inflammation of the eye in December, 1870, which left her vision impaired. On the 6th of August she had another attack, which quite extinguished sight. When seen by Williams, there was great exophthalmos; intense injection, with swelling of conjunctiva and lid; the upper part of the ciliary circle was staphylomatous. On the 4th of December enucleation of the eye and tumor which filled the orbit was performed. December 29th there was a recurrence of the orbital tumor, which was larger than the original one. The patient died two months later.

The anatomical examination by Knapp showed the tumor to be a melano-sarcoma. It, however, presented a new feature concerning the propagation of intra-ocular sarcoma, *the occurrence of secondary tumors by dissemination of germs from a distance.* Knapp has described the extension in this way of glioma from the retina to the choroid. But this is the first observation of the kind in choroidal sarcoma.

In the second case the right eye was removed from a girl of twelve years, in May, 1873. She did not find out that the eye was blind until two and half years ago, when she accidentally injured the other one. She suffered no pain until within the last year. The patient had several hæmorrhages from the lungs, and there were deposits of tubercles in apex of right lung. Her father died of phthisis.

When she came for advice, the iris of the blind eye was discolored and there were synechiæ; lens opaque and greenish; tension increased. Intra-ocular tumor was suspected. The eye, together with the optic nerve, was removed as far down in the orbit as possible. Knapp gives the following points of interest of the case:

1. *The age*, twenty-two years, of the patient, affected with a choroidal sarcoma, which showed a marked beginning of pigmentation, is unusually young, only a few cases of chloroidal sarcoma of that age being on record.

2. The *origin* and early *development* of the growth were free from pain and inconvenience. The second or glaucomatous stage set in when the eye was known to be blind for fully two years.

3. The patient was *tuberculous* and of tuberculous family, showing that there is no exclusion between tubercles and sarcoma.

4. The sarcoma *originated in the vicinity of the optic disk*, *overlapped the disk* in its growth, detached the retina from the choroid, but *remained itself partially* covered by it.

5. *The close contact of the sarcoma with the retina* and optic nerve explains its extension to those parts by *immediate propagation.*

6. It is remarked that the infiltration of sarcoma-cells did not reach beyond the retina proper, the pars ciliaris being free.

IV. Savary describes a case of tumor of the lachrymal gland which occurred in a man of fifty-nine years of age. The tumor came on after a blow received three years before, and had gradually pressed the eye forward and downward; it was situated under the outer part of the roof of the orbit, appeared hard and about the size of a pigeon's-egg, and gave rise to constant lachrymation and occasional pain. The removal was difficult, as it reached far back in the orbit, and its fibrous envelope was firmly united to the periosteum. There were some cerebral and other symptoms, which disappeared when suppuration ensued. The wound healed in four weeks. Exophthalmos nearly disappeared, and the overflow of tears had ceased.

V. Annuske has given some very interesting facts on the value of optic neuritis as diagnostic of cerebral tumor. Although his paper has been reviewed in several journals, we venture, on account of the interest it has for the general physician, to state very briefly his conclusions: He thinks that optic neuritis is nearly always diagnostic of intra-cranial tumor. He gives a table of 238 cases derived from literature. Of 271 cases of tumor in his collection, ophthalmoscopic examination was made in only 42, and optic neuritis or atrophy in consequence of it existed in all of them; in one of these the result of the examination is not given; in 15 cases of his own, in which a diagnosis of tumor was made, double optic neuritis occurred in five cases and was verified by autopsy.

A fuller report of this paper may be found in the *Boston Medical and Surgical Journal*, for November, 1874, and in the "Archives of Ophthalmology and Otology," vol. iv., No. 1.

VI. Reich adds 86 cases to the statistics of intra-cranial tumors given by Annuske, which go to confirm, in the main, his views, although the proportion of cases with absence of neuritis is somewhat larger. Of these cases ophthalmoscopic examination was made in 45; in four of these there was double neuritis, or atrophy in consequence of it; in one, one-sided neuritis; and in three no change in the disk.

The statistics of all the cases of both authors is, then, as follows:

In 95.65 per cent., optic neuritis, or atrophia *ex neuritide;* in 93.5 per cent., of both sides; in 2.15 per cent., of one side; in 4.35 per cent. no ophthalmoscopic lesion.

VII. Dr. Adler reports the history of a patient presenting all the symptoms of scorbutis, in which the sight was abolished by a spontaneous hæmorrhage into the anterior chamber. Medication directed against the general affection brought about amelioration of all the symptoms, and absorption of the blood. (The writer has once seen hæmorrhage from the ear in a case of scorbutis.)

VIII. André records a very remarkable case. A woman of sixty-seven years consulted him, with the following history: For fifteen years she had not seen with the right eye, and for the last three years her sight had become so bad in the left that she could not find her way. An examination of the eyes revealed the following curious lesions: Right eye.—The cornea, conjunctiva, and lids, healthy; no abnormal injection or inflammation; the anterior chamber clear, but somewhat deeper than usual; the iris tremulous, and the pupil displaced upward. The appearance was that of an eye which had been operated for cataract, but the patient had never been subjected to any operation nor received any injury. When the upper lid was drawn upward, and the patient directed to look down, the lens, in its capsule, was seen lodged under the conjunctiva, its inferior border about two mm. from the margin of the cornea. The lens was quite movable, discolored brown, and covered with calcareous deposits. It had never given any inconvenience. The eye was somewhat softer than normal. There was no perception of light. Ophthalmoscopic examination showed glaucomatous excavation of the papilla, with atrophy of the choroid in some places, and irregular pigment formation in others. Left eye.—Lids, conjunctiva, and cornea, healthy; anterior chamber but little increased in depth; the iris carried upward and prolapsed in a wound of the sclerotic, which measured about one-quarter the circumference of the membrane; the lens was behind the pupil, but displaced upward, its superior border being engaged in the wound. There was partial cataract. With this eye there was perception of light on the temporal side. Opacity of the lens prevented ophthalmoscopic examination. Intraocular pressure normal.

André offers the following explanation of this extraordinary occurrence: It appears that both eyes, at intervals long apart, and with different degrees of violence, had been subjected to an excess of intraocular pressure, probably glaucoma, which was sufficient not only to cause excavation of the disk, but also rupture of the sclerotic, with total expulsion of the lens under the conjunctiva in the right, and hernia of the iris and lens in the left. The interesting feature of the observation is the absence of trauma, and the author knows of no similar case on record.

IX. *Corectopia Binocularis.*—A female patient, aged twenty-nine, consulted Dr. Landsberg in regard to her eyes. The singular expression of her face, which at once attracted attention, was seen on closer examination to depend upon an abnormality of the pupils. The pupil of the right eye was displaced upward and outward, only a small rim of iris being visible at the ciliary margin. The iris was tremulous, gray, sphincter preserved; it bulged toward the centre of the cornea, making the anterior chamber seem deeper at the periphery. Ophthalmoscopic examination revealed media clear, disk distorted, vessels tortuous. There was a high degree of irregular astigmatism.

With concave 5 V.$=\frac{5}{70}$ and Jäger No. 6 is read fluently, No. 4 with difficulty. No improvement with cylindrical glasses.

The displacement of the left eye was downward and outward. Posterior synechiæ rendered its outline irregular, and impaired mobility. Iris discolored, its tissue tendinous and indistinct. There were deposits upon the anterior capsule, flaky opacities in the vitreous, and atrophic spots, with maceration of pigment-cells in the choroid. With strong concave glasses, V. $\frac{5}{100}$.

Landsberg puts this case on record without comment. We venture to add, that it is remarkable on account of the unsymmetrical disposition of the pupils in the two eyes. It also confirms what has been observed by others, that the abnormality of the pupils is usually accompanied by other abnormalities. The writer of this report has recorded a case of monocular corectopia. (*Archives of Ophthalmology and Otology*, vol. iii., No. 2.)

X. The author reports four cases attended with some interesting and unusual phenomena:

Case I.—A patient, aged sixty-two, had always been healthy, and had never had any previous trouble with her eyes. Three weeks before, she had a sudden obscuration of sight in both eyes, by a dense cloud which had a "quivering motion." The cloud passed away from the left eye almost immediately, without leaving impairment of vision, while V. in the right was reduced to quantitative perception of light. In the course of three weeks there was occasionally but transient improvement of sight.

Ophthalmoscopic examination showed the disk rather injected, but not markedly so. The arteries were not much reduced in size, but the veins were enormously distended. There were three hæmorrhages, all venous, one of recent origin, the other two evidently of longer standing; they were, however, of no great date, as could be told by their color.

The recent hæmorrhage was from one of the principal branches of the central veins and close to the o. d. The others at the periphery of the field, one above, the other below. Pulsation was not produced by pressure in either veins or arteries. The changes at the macula were those usually described as due to embolism, modified by the lapse of time since date of attack. The characteristic milky appearance extended for a considerable area around the macula, and the bright cherry spot was pronounced, and larger than usual. The left eye was normal, V. with $+\frac{1}{8}=\frac{20}{20}$, no limitation of F. Examination of heart and kidneys showed nothing abnormal. The progress of the disease was as follows: About a month after the doctor first saw the case, the large fresh hæmorrhage, together with the remains of the earlier ones, had entirely absorbed, and the changes at the macula had disappeared. The veins were less gorged, and had become spindle-shaped, with their thinnest part near the nerve. The arteries had not changed, and V. had not improved at all. She was now dismissed from treatment. In two weeks the patient was attacked with glaucoma.

A month later she was again seized with similar symptoms, and the day following the eye was enucleated. About a year and a half after the enucleation the patient died. Three months before her death, she began to have peculiar sensations in the left leg, which showed signs of swelling with œdema. This increased, extending from the foot upward, and assumed the characteristics of phlebitis. There were now signs of heart-disease, which her physician thought to be secondary to the trouble in the leg, and due to some impediment in the circulation. The patient died from apoplexy.

Case II.—This case happened in a physician of forty-seven years, who had suffered severely from attacks of acute rheumatism and dropsy. For about twenty-four years he had been subject to temporary attacks of blindness in the left eye, which would last a few minutes and pass completely away. Other attacks occurred repeatedly, sometimes daily, and then not for weeks or months. At last he had an attack which lasted a whole day, and then in a degree returned, but only for a moment, when it again failed completely.

Ophthalmoscopic examination showed no diminution in size of the retinal vessels; but almost the entire retina was milk-white, with the characteristic red spot at the macula.

The outlines of the disk were obliterated.

The urine contained albumen, but no casts. An expert diagnosticated aortic obstruction, and hypertrophy of the left side of the heart.

Case III.—A widow of twenty-six years, who had always menstruated regularly. Sight of the right eye was suddenly lost the day following the appearance of the menses. After some time a perception of light, with ability to see large objects, in the right of the visual field, returned, which again sank to perception of light only.

The ophthalmoscope showed no change in the disk or the retinal vessels, either in their size or course. On the outer side of the disk, however, there was a grayish-white patch extending to the macula, which had the appearance of a dense exudation into the retina. There was a perfectly circular bright-red spot at the macula. Three or four days later the exudation had become yellowish-white, and straight through the centre of the exudation and red spot there ran a small vessel. After the exudation had gradually absorbed, there appeared spots which seemed to be due to fatty degeneration.

The vessels became attenuated, while bands developed along their course, which resulted in a general atrophic condition.

There was no abnormality of the heart or kidneys.

Case IV.—A man, forty years old, who had lost his right eye many years before, suddenly became almost blind in the other. Five days after the attack the ophthalmoscope showed the retina round the macula infiltrated by a smoky-white œdema, and the macula stood out as a bright-red spot on a white ground. There was no apparent diminution in size of the arteries. The infiltration disappeared, and V. rose to $\frac{8}{50}$ and later to $\frac{12}{50}$. After a debauch a relapse ensued, and V. again sank to $\frac{14}{100}$; under abstinence from drink, and injections of strychnia, it rose once more to $5 = \frac{12}{50}$. The patient was then lost sight of. There was no heart-disease.

Case V.—A woman, aged forty-one, was suddenly stricken with blindness of the right eye. Three days later was examined with the ophthalmoscope. The disk was normal, but the arteries somewhat narrowed, and at the macula was a dark spot, which contrasted but faintly with the tissue. Later the spot became darker, but not red, and the retina adjacent became faintly cloudy. In the third week after the attack the patient began to see, and in six weeks it had risen to $\frac{2}{5}$. After this she suffered a relapse, and then the vision rose again to $\frac{2}{3}$. The arteries remained somewhat reduced in size; the retinal infiltration was absorbed.

Loring would not imply from these cases that embolism of the central retinal artery does not occur. But these five cases differ, in so many respects, from what we should expect in simple embolism, as to lead him to doubt whether they ought to be included in the category in which they are usually classified, and whether sudden loss of sight without premonitory symptoms is so distinctive a mark of embolism as is generally believed.

Translations.

Progressive Pernicious Anæmia.—Under this name, Biermer has recently collected fifteen cases of a peculiar disease which does not appear to have been previously placed in any pathological system. The most prominent symptom of the disease is an increasing paleness of the integumentary surfaces, together with the usual phenomena of anæmia. The anæmia increases, and the patients, almost without exception, soon die. The *post-mortem* section reveals an extraordinary scarcity of blood in all parts of the body, though there is no corresponding loss of fat tissue, or other sign of emaciation.

This form of anæmia differs from others in—1. The absence of any sufficient etiological cause. 2. The extraordinary degree of blood-impoverishment and the connection of the anæmic symptoms with certain changes in the circulatory apparatus. 3. The appearance of febrile movements which have no anatomical basis. 4. The progressive character of the anæmia and its extremely malignant course, which cannot, generally, be checked by therapeutical means. Evidently this disease does not occur frequently, or it would have been described before. The greater number of cases appear to have occurred in Zurich and Basle, Switzerland. Most of the patients were women between twenty and forty years of age, and pregnancy appears to have had some connection with its cause. In other cases, in both sexes, the development of the disease appears to be more dependent on bad living, troubles of digestion, diarrhœa, etc. From the extreme degree of the anæmia, with the very slight atrophy and emaciation, it would seem that the probable cause of the disease is of such a nature as to exert a very considerable effect on the blood-formation, while it affects but slightly the other functions of the organism.

Gusserow's observations have shown that transfusion is of no use in these cases. Only one of Biermer's cases left the hospital somewhat improved ; the others died, as was also the case with the five pregnant women mentioned by Gusserow. In severe symptomatic anæmia, on the contrary, the patients usually recover with proper treatment. Biermer and Gusserow did not find the contracted condition of the aortic sys-

tem which is common in anæmia. The blood is pale, thin, and but slightly coagulable. In one case Ponfick found an almost entire absence of fibrine. Œdema becomes marked toward the close of the disease. The red blood-corpuscles were diminished in number; the number of the white blood-corpuscles was usually, though not always, increased. The spleen, lymphatic glands, and marrow of the bones, were unaffected. Biermer almost constantly found the pulse weakened and undulating, with a high systolic secondary sound of the heart and in the large vessels, although no valvular lesion was found in the *post mortems.* An hæmorrhagic diathesis was usually developed early, with bleeding from the nose and gums, and sometimes extravasations under the skin and small cerebral hæmorrhages. In all of Biermer's and in one of Immermann's cases there were retinal hæmorrhages, but these did not in all cases cause disturbance of vision. The changes in the circulatory apparatus consisted in a partial fatty degeneration of muscular tissue of the heart. There was also fatty degeneration of the renal epithelium, hepatic cells, and the gastric glands. The fever seldom reaches a high degree, is varying, and frequently there are intermissions of considerable length. Treatment does not seem to be of any use.—Immermann in *Archiv f. klin. Med.*, and *Uegeskrift f. Laeger*, July, 1874.
G. R. C.

Protection of the Teeth.—Alf. Bramsen calls attention in a letter to the *Uegeskrift für Laeger*, June 27, 1874, to the injurious effects on the teeth of the various salts and acids contained in many of the mineral waters and acid mixtures which are so extensively used at present. Pyrmont-water, for example, which contains a large proportion of iron and acid, has a very destructive effect on the enamel. Sucking the water through a glass tube does not improve the matter very much. The writer believes that the most efficient protection is obtained by rinsing out the mouth immediately after the use of such fluids with a weak solution of bicarbonate of soda.
G. R. C.

Amputation of a Child's Tongue.—Prof. Azzio Caselli reports, in the *Bulletino delle Scien. Med.*, the case of a child nine years of age, which had wounded its tongue by a fall. A cancerous tumor followed, which in two years had extended over the entire right half of the tongue, except its summit; the tumor also invaded the central portion of the left half and the right half of the floor of the mouth. At the point where the tumor first made its appearance there was a large ulcer, from which flowed blood and ichorous matter. There was no ganglionic enlargement, but the child was anæmic and emaciated.

The patient entered the hospital September 1, 1873. There was then a very acute glossitis, consecutive to the mastication of irritating substances. There was also some obstruction to respiration. In a few days, while the child was nourished by means of the œsophageal catheter, introduced through the nostril, the inflammation yielded to local bleedings and cold applications. On the eleventh day Prof. Caselli commenced the removal of the entire tongue by Rizzoli's method, dividing the lower jaw at the median line, and applying a ligature. The fifth day, as the tumor was slow in disappearing, he removed it by means of Chassaignac's *écraseur*, without the least hæmorrhage. At the end of thirty days the wound had entirely healed and deglutition was normal. Although three-quarters of the tongue had been removed, the child was able to pronounce *s* and *z*.—*La France Méd.*, August, 1874. G. R. C.

Acidulated Gargles in Typhoid Fever.—M. A. Netter, alluding to the buccal element in typhoid fever, and the beneficial influence of frequently-repeated acidulated gargles, draws the following conclusions:

1. Call the attention of the patients to the bad odor of their mouth, and inform them that not only in it, but also in the nose, there is something being secreted which poisons the whole system.

2. Place at their disposition an unlimited quantity of a solution containing two hundred grammes of decoction of barley, thirty grammes of honey, and twenty-five grammes of vinegar. Let them gargle and rinse their mouth with this frequently, and also snuff it into both nostrils. When they have commenced with this it will be found so agreeable that large quantities will be consumed.

3. The nurses should be instructed to encourage and assist the patients during this operation. Where the adynemia is very profound, the nurses should cleanse the mouth for the patients.—*Gaz. des Hôp.* and *Trib. Méd.*, No. 308, 1874. G. R. C.

Treatment of Chronic Ulcers of the Leg.—For the treatment of these ulcers, which are of such frequent occurrence among the poorer classes, Dr. Bidder recommends the starch-bandage. The ulcer and leg, having been cleaned, are covered with a layer of wadding, and then the limb is enveloped in a starch-bandage. After the dressing has dried, the patient can follow his occupation. After from five to eight days the dressing is removed and renewed. If the ulcer has callous edges, it is best to strap it first. After treatment of several months in the above manner, the author has cured large and very chronic ulcers.—*Med. Chir. Centralblatt*, 31, 1874. E. F.

Miscellany.

Extraordinary Longevity. — The *Philadelphia Evening Bulletin* of October 1, 1874, contains an obituary notice of George Labar, who died September 26th, in Monroe County, Pa. According to the *Bulletin*, he was born in the autumn of 1763, in Mount Bethel, now Portland, Northumberland County, Pa., where his baptismal register is still preserved. He was of French descent, his grandfather having been a fugitive from religious persecution. His father lived to the age of one hundred and five years. In 1870 he had a brother living who was ninety-eight years of age, one sister aged eighty-six, and another aged ninety-two years. He had lived an active out-door life, and had known very little sickness. He used tobacco very freely all his life, both smoking and chewing, but was very moderate in the use of alcoholic liquors. As there seems no reason to doubt the accuracy of the statements given, this is one of the most extraordinary cases of longevity on record.

Purpura Hæmorrhagica.—Dr. B. W. Richardson delivered an address on this subject before the Medical Society of London, at a meeting held November 9th. He divides the disease into three principal classes, and points out the difference in the cause, diagnosis, and treatment of each. In what he terms the *aqueous* variety, the water of the blood is in excess, and the colloids relatively diminished; in the *saline* class the colloidal element is held in undue solution by excess of saline substances; in the *vascular* form of purpura the disease is due to some degenerative change in the capillaries, facilitating rupture or transudation. These different forms of the disease are believed by Dr. Richardson to be characterized by different forms of eruption. The paper will be found in full in the *Medical Times and Gazette* of November 28th.

Account-Books for Physicians.—A ledger and set of day-books, on a new plan, for the use of physicians, has just been published by Mr. W. L. Hitchcock, of No. 25 Bond Street. The system appears to be the perfection of simplicity. The day-book is in twelve sections, one for each month, each one so small as to be easily carried on an ordinary pocket-book. The account of each patient is kept on two horizontal lines, one for charges and the other for credits. The totals for the month can be obtained almost at a glance, and these are transferred monthly to a ledger of four hundred pages, in which each patient's account is extended on two lines, similar to those of the day-book, to the end of the year. The work of posting is thus rendered exceedingly simple and rapid—so simple, indeed, that it would be almost impossible to make mistakes. We have seen nothing of the kind so good as these account-books, and therefore take pleasure in recommending them.

Pernicious Anæmia.—Dr. Biermer, of Zürich (*see* "Translations"), gives the name of "progressive pernicious anæmia" to a disease which he believes to differ essentially from other forms of anæmia. The subjects of it become exceedingly pale, and the skin of their hands, feet, and face, acquires a swollen appearance, but there is no perceptible decrease of the fat covering the body. Ecchymoses appear in the retina, though vision remains intact. There are probably small hæmorrhages in the brain-substance. The disease is said to be always fatal. Dr. Biermer has seen fifteen cases during the last five years, the majority being women. The symptoms resemble somewhat those of albuminuria, but the urine contains no albumen. Necropsies have invariably shown partial fatty degeneration of the papillary muscles of the heart, and fatty degeneration of the small blood-vessels of various organs.

Journalistic Notes.—The *Medical Record* begins the present year as a weekly journal. Dr. George F. Shrady will retain editorial control.

The *Boston Medical and Surgical Journal* has been transferred by the publishers, David Clapp & Co., to its present editorial managers, and will hereafter be published by H. O. Houghton & Co.

The *Chicago Medical Examiner* has been enlarged and otherwise improved.

The *Journal of Psychological Medicine*, conducted for sixteen years by the late Dr. Forbes Winslow, is about to be reproduced by his son, Dr. Littleton Forbes Winslow, but as a semi-annual instead of a quarterly. The first number will appear in April next. Smith, Elder & Co. have undertaken its publication.

The Tale of a Bag.—It is common enough to hear of disputes about the invention of surgical instruments, and the ether controversy is an old story, but it has been left for two distinguished obstetricians of London to dispute over the "invention" of a bag. The future historian will be puzzled to decide who first conceived the brilliant idea of carrying his instruments in a bag, and calling it an "obstetric bag." When this important question is settled, we shall be glad to know who claims priority in the use of sponges.

Appointments, Honors, etc.—Prof. Benjamin G. Wilder will give the course in physiology in the Medical School of Maine at the next term. Dr. Edwin Bentley, U. S. A., has been appointed resident physician of the Insane Asylum at Napa, California. Dr. J. Marion Sims has resigned his position as one of the surgeons to the Woman's Hospital, of which he was the founder. Austin Flint, Jr., M. D., has received the appointment of Surgeon-General on the staff of the Governor of this State.

Dr. Lombe Atthill has been elected President of the Dublin Obstetrical Society.

Award of Prizes by the German Empress.—Four works in the English language, and one in the German, were sent in to compete for the prize offered by the German Empress for the best hand-book on technical war-surgery. At the suggestion of the prize judges, it was ordered that the prize of 2,000 thalers should be divided, and 1,000 thalers were awarded to Dr. Frederick Esmarch, Professor at Kiel, and 500 thalers each were given to Surgeon-Major G. A. Porter, of England, and to Dr. Joseph Landsberger, of Posen.

The Massachusetts Medical Convention.—By order of Dr. W. J. Dale, Surgeon-General of Massachusetts, the Medical Commission of that State is relieved from duty, and a board, composed of Drs. J. B. Treadwell, B. Joy Jeffries, and Edward J. Forster, appointed to examine applicants for medical positions in the volunteer militia. The old commissioners were appointed by Governor Andrew, and did good service during the war.

Closure of the Paris Faculty of Medicine.—In consequence of the hostile and riotous demonstrations of the students against Prof. Chauffard, the newly-appointed Inspector of Medical Studies, the lectures of the Paris Faculty of Medicine have been suspended for the present. The unpopularity of M. Chauffard is due solely to his clerical and legitimist proclivities.

A Spanish Edition of Thomas on the Diseases of Women.—Arrangements have been made by D. Appleton & Co., for the publication of an edition—in the Spanish language—of Prof. T. Gaillard Thomas's work on the Diseases of Women. This work has already been translated into German and French, and an edition in Italian is, we believe, in preparation.

California Medical College.—The commencement of the Medical Department of the University of California was held October 29, 1874, nine gentlemen receiving diplomas.

At the commencement of the Pacific Medical College, held about the same time, there were eight graduates.

A Singular Libel-Suit.—Dr. Baird, of Daylesford, Australia, sued the town clerk for £100 damages, for having spoken of him as a "bounding medical kangaroo." The judge thought the phrase might be considered rather complimentary than otherwise, and the plaintiff was nonsuited, with costs.

The Writings of the Late Dr. Anstie.—We learn with pleasure that the papers of the late Dr. Anstie, now scattered through various journals, are to be collected and edited by Dr. Buzzard, and published in a single volume by Messrs. Macmillan.

Deaths from London Fog.—According to the *Lancet*, ten inquests were held November 24th on the bodies of persons whose death was attributed to the effects of the fog. Twenty other deaths were reported from the same cause.

Surplus Material.—Several reviews, the conclusion of the report of St. John's Riverside Hospital, and some other matter, intended for the present number, will appear in our issue for February.

Ergot and Ergotine.—After a series of experiments with ergot and ergotine, Dr. Lombe Atthill has arrived at the following conclusions:

1. That *Wigger's pure ergotine* is inert, and useless for the purpose of hypodermic injection.
2. That *Bonjean's* ergotine, hypodermically injected, exerts a marked effect on cases of uterine fibroids, lessening the amount of blood lost and lengthening the periods, but that its use is liable to be followed by the formation of abscesses.
3. That the *extractum ergotæ liquidum*, B. P., is still more efficient in checking the uterine hæmorrhage occurring in these cases, but that its use causes at the time severe pain, and that troublesome abscesses are very likely to form at the site of the injection.

Erichsen's Impressions of American Surgery.—We make the following extracts from an address delivered by Prof. Erichsen, at the University College Hospital, London, on his return from this country. After a generous acknowledgment of the "warm and hospitable and hearty welcome" that was given him wherever he went, and some remarks on the relatively high social status of the profession in America, he says:

Surgery in the United States certainly stands at a very high level of excellence. The hospital surgeons throughout the country have struck me as being alike practical, progressive, and learned, in a very high degree. In practical skill, and aptitude for mechanical appliances of all kinds, they are certainly excelled by no class of practitioners in any country. They are thoroughly up to modern surgery in its most progressive forms, and I have never met with any class of men who are so well read, and so perfectly acquainted with all that is done in their profession outside their own country. It would be a great injustice to American surgeons for it to be supposed that surgical skill is confined to the large cities, or to the few. On the contrary, I know no country in which, so far as it is possible to judge from contemporary medical literature, there is so widely diffused a high standard of operative skill as in the country districts and more remote provinces of the United States. The bent of the mind of the American surgeon is, like ours, practical rather than scientific; in fact, there are the same mental characteristics displayed in him that we find here—the same self-reliance, the same practical aptitude, the same *curative* instinct, which leads him to consider his patient rather as a human being to be rescued from the effects of disease or injury, than as a scientific object to be studied for the advance of professional knowledge. . . .

The hospitals in the United States are, as with us, supported by voluntary contributions or by endowments from wealthy benefactors. The Americans are munificent in their charity, and hence these institutions are numerous and well-organized. America has two sets of hospitals, the old and the new. Like England in some of its larger towns, it is still embarrassed by the hospitals erected in pre-sanitary days, under systems of construction which time, experience, and the advance of scientific knowledge, have proved to be erroneous, in which septic diseases are readily generated and become largely destructive to the patients. These institutions are, however, undergoing a process of conversion which will speedily do away with many of the evils inseparably connected with such buildings. The Americans learned a hard lesson in the deadly struggle of the War of Secession—a lesson which is not likely soon, if ever, to be forgotten by so practical a people, unfettered by old prejudices and preconceived opinions. The lesson to which I allude was this: that wounded and injured soldiers could only safely be treated in the open air, in hut or barrack hospitals. This lesson has been taught to Europe by the more recent experiences of the Franco-German War, with what results in the future remains yet to be seen. That the barrack or hut system is superior to any other for surgical cases there can be no question. . . .

At the Roosevelt Hospital at New York, without exception the most complete medical charity in every respect that I have ever seen—a hospital the construction of which reflects the greatest credit upon its designers—in this hospital, which is constructed on the plan of a central administrative department, with lateral pavilions, there is a large detached barrack-ward erected in the garden, having no communication with the general structure, except through an open corridor. This barrack-building or ward is devoted solely to the reception of acute surgical cases. It consists mainly of one large ward, containing thirty-six beds, arranged two-and-two on either side in the interspaces between the windows. It has an open basement, and a large ventilating space between the ceiling and the roof; and every appliance that modern science can suggest in the way of securing efficient ventilation, cleanliness, and warmth, has been expended upon it. This ward, filled with surgical cases, has now been opened for nearly three years; and I was told by Dr. Weir, who kindly took me over it, that during that time there had only been one case which was supposed to be pyæmic—a case of so-called "pyæmic meningitis" following urethrotomy; anyway, a case of blood-poisoning probably rather from self-infection than from external contamination. In addition to this magnificent barrack-ward, there is in the gardens attached to the Roosevelt Hospital a separate hut for the reception of erysipelas cases that may be brought to, or might accidentally develop in, the institution. The Roosevelt Hospital appears to me to be a model that might with great advantage be copied in this country, especially in those towns where it is becoming necessary to destroy pyæmia-infected infirmaries, and to construct new hospitals. It is a perfect model for a hospital of from 150 to 250 beds; and the plan admits of its indefinite augmentation by the addition of pavilion wings and barrack-wards.

But admirable as this institution is, an attempt has already been made to improve upon it. The American surgeon, as I have already told you, is progressive. He invariably tries to go from good to better. He will not remain content with those appliances and means which might have been sufficient for a past generation, but are no longer equal to the requirements of the present day. Dr. Billings, of the United States Army, one of the most learned and advanced surgeons of the day, is superintending the construction of a hospital at the "Soldiers' Home," near Washington, a magnificent establishment, the Chelsea of America. There is no barrack or hut attached to this hospital, as it is intended for chronic cases only; but, should occasion require, such a building might easily and cheaply be run up in connection with it. . . .

In all the modern hospitals that I have visited in the United States, I have been particularly struck with the extreme attention to cleanliness in all that concerns baths, lavatories, and water-closets. These appliances are as perfect as they are substantial, and as ornate as are to be found in the best private houses. They are invariably carefully isolated from the wards. Great attention is also bestowed upon the disposal of foul linen, which, as a rule, instead of being carried through the building, is conveyed directly from the ward down a separate lift in the central department. The laundries also are models of cleanliness, and generally detached from the main building. The whole of the washing of the clothes, drying, etc., is rapidly done by steam machinery. Hot-air chambers are also provided for the rapid drying of damp ward linen. The floors are of hard wood, and are dry-rubbed. Fire-proof staircases, and hydrants having a continuous water-supply, are ready in case of emergency. In many hospitals there are spacious wooden piazzas or verandas running round the building, and communicating directly with the wards, for air and exercise in summer. . . .

Surgical practice in America does not differ in any very essential respects from that adopted here. There are necessarily some modifications, and many ingenious appliances; but essentially there is no greater difference between American and English surgery generally than is to be found between the practice adopted in any two London hospitals.

The treatment of wounds is sufficiently simple, and presents nothing peculiar. I observe that American surgeons are careful about the drainage of wounds, and employ drainage-tubes or similar appliances freely. . . .

I have thus given you a very brief sketch of some of the impressions that I formed of our profession during my recent visit to America, and in so doing I have purposely, as far as possible, omitted mentioning the names of American surgeons, because I felt that there are so many so highly distinguished that it would be invidious and perhaps unjust to make a selection of a few among the juniors, and among the seniors it would be needless to name to you such men as that Nestor of American surgery, Gross, or of Pancoast, of Philadelphia; of Van Buren, Wood, Parker, or Sayre, of New York; Bigelow or Hodges, of Boston; Smith or Johnston, of Baltimore. I can only say that the surgical profession in America contains a phalanx of men alike distinguished for their skill and their knowledge, at least equaling what any European country can produce. And, in conclusion, I would advise those among you who wish to see and study the practice of surgery elsewhere than in the school in which you have been brought up in this country, who are not content throughout their lives, *jurare in verba magistri*, to run in the one professional groove in which they have been launched, but who unfortunately have not acquired that fluency of the speech of Germany or of France that would render a residence in those countries profitable for the purposes of study, to take a trip across the Atlantic—a voyage in itself interesting, amusing, and health-giving—and to spend a few months in visiting the great hospitals and schools in the cities of the United States of America.

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 14 *to December* 13, 1874.

By S. O. 260, War Department, November 30, 1874, the following-named Assistant Surgeons (recently appointed) are directed to report as follows for assignment to duty:

WINNE, CHARLES K., in person to the commanding general, Department of the Platte.

AINSWORTH, F. C., in person to the Superintendent U. S. Military Academy, West Point, N. Y., for temporary duty.

HAVARD, VALERY, by letter to the commanding general, Department of Dakota.

HOFF, JOHN VAN R., by letter to the commanding general, Department of the Platte.

PAULDING, H. OFFLEY, in person to the commanding general, Department of Dakota.

ADAIR, GEORGE W., in person to the commanding officer, Newport Barracks, Ky., for temporary duty.

BROWN, PAUL R., by letter to the commanding general, Military Division of the Atlantic.

Moseley, Edward B., by letter to the commanding general, Department of the South.

Jackson, Donald, in person to the commanding general, Department of Texas.

Semig, Bernard, by letter to the commanding general, Department of California.

Skinner, John O., in person to the commanding general, Department of the Columbia.

Finley, James A., in person to the commanding officer, Fort Monroe, Va., for temporary duty.

De Loffre, Augustus A., in person to the commanding general, Department of the Missouri.

Bedal, S. S., by letter to the commanding general, Military Division of the Atlantic.

Hamilton, John B., in person to the Superintendent Mounted Recruiting Service, St. Louis, Mo., for temporary duty.

Wilcox, Timothy E., in person to the commanding general, Department of the Missouri.

Maus, Louis M., by letter to the commanding general, Department of the South.

Smith, J. R., Surgeon.—Granted leave of absence for fifteen days. S. O. 242, Military Division of the Atlantic, December 9, 1874.

Sternberg, George M., Assistant Surgeon.—Granted leave of absence for one month. S. O. 196, Department of the Gulf, December 1, 1874.

Gibson, J. R., Assistant Surgeon.—Granted leave of absence for fifteen days, upon completion of his examination for promotion. S. O. 260, C. S., A. G. O.

Phillips, H. J., Assistant Surgeon.—Assigned to duty at Fort Ontario, Oswego, N. Y. S. O. 236, Military Division of the Atlantic, November 30, 1874.

Hubbard, Van B., Assistant Surgeon.—Assigned to duty at Jackson Barracks, La. S. O. 187, Department of the Gulf, November 17, 1874.

Kinsman, J. H., Assistant Surgeon.—Relieved from duty at Fort Abercrombie, D. T., and to report in person at these headquarters. S. O. 252, Department of Dakota, November 16, 1874.

Heizmann, C. L., Assistant Surgeon.—Relieved from duty in the Department of the Platte, to report in person to the President of the Army Medical Board, New York City, for examination for promotion, and, upon its completion, by letter to the Surgeon-General. S. O. 260, C. S., A. G. O.

Yeomans, A. A., Assistant Surgeon.—Granted leave of absence for three months on surgeon's certificate of disability. S. O. 250, A. G. O., November 17, 1874.

Matthews, W., Assistant Surgeon.—Assigned to duty at Fort Wood, N. Y. H., as Post-Surgeon. S. O. 241, Military Division of the Atlantic, December 7, 1874.

Dickson, J. M., Assistant Surgeon.—Assigned to duty at Savannah, Ga. S. O. 186, C. S., Department of the South.

Brown, P. R., Assistant Surgeon.—Assigned to duty at Fort Hamilton, N. Y. H. S. O. 241, C. S., Military Division of the Atlantic.

Moseley, E. B., Assistant Surgeon.—Assigned to duty at Columbia, S. C. S. O. 197, Department of the South, December 4, 1874.

Finley, J. A., Assistant Surgeon.—Assigned to duty at Fort Monroe, Va. S. O. 241, C. S., Military Division of the Atlantic.

Bedal, S. S., Assistant Surgeon.—Assigned to duty at Fort Wadsworth, N. Y. H. S. O. 241, C. S., Military Division of the Atlantic.

Wilcox, T. E., Assistant Surgeon.—Assigned to duty at Fort Leavenworth, Kansas. S. O. 201, Department of the Missouri, December 4, 1874.

Maus, L. M., Assistant Surgeon.—Assigned to duty at McPherson Barracks, Ga. S. O. 191, Department of the South, November 25, 1874.

Johnson, Henry, Medical Store-Keeper.—Granted leave of absence for three months. S. O. 253, A. G. O., November 20, 1874.

Obituary.

Dr. Friedrich Rochleder, Professor of Chemistry in the University of Vienna, died November 6, 1874.

Edward Smith, M. D., F. R. S., died November 16, 1874, aged fifty-five years. He was a voluminous writer on medical topics, and is known to the profession chiefly as the author of works on Diet and on Health and Disease.

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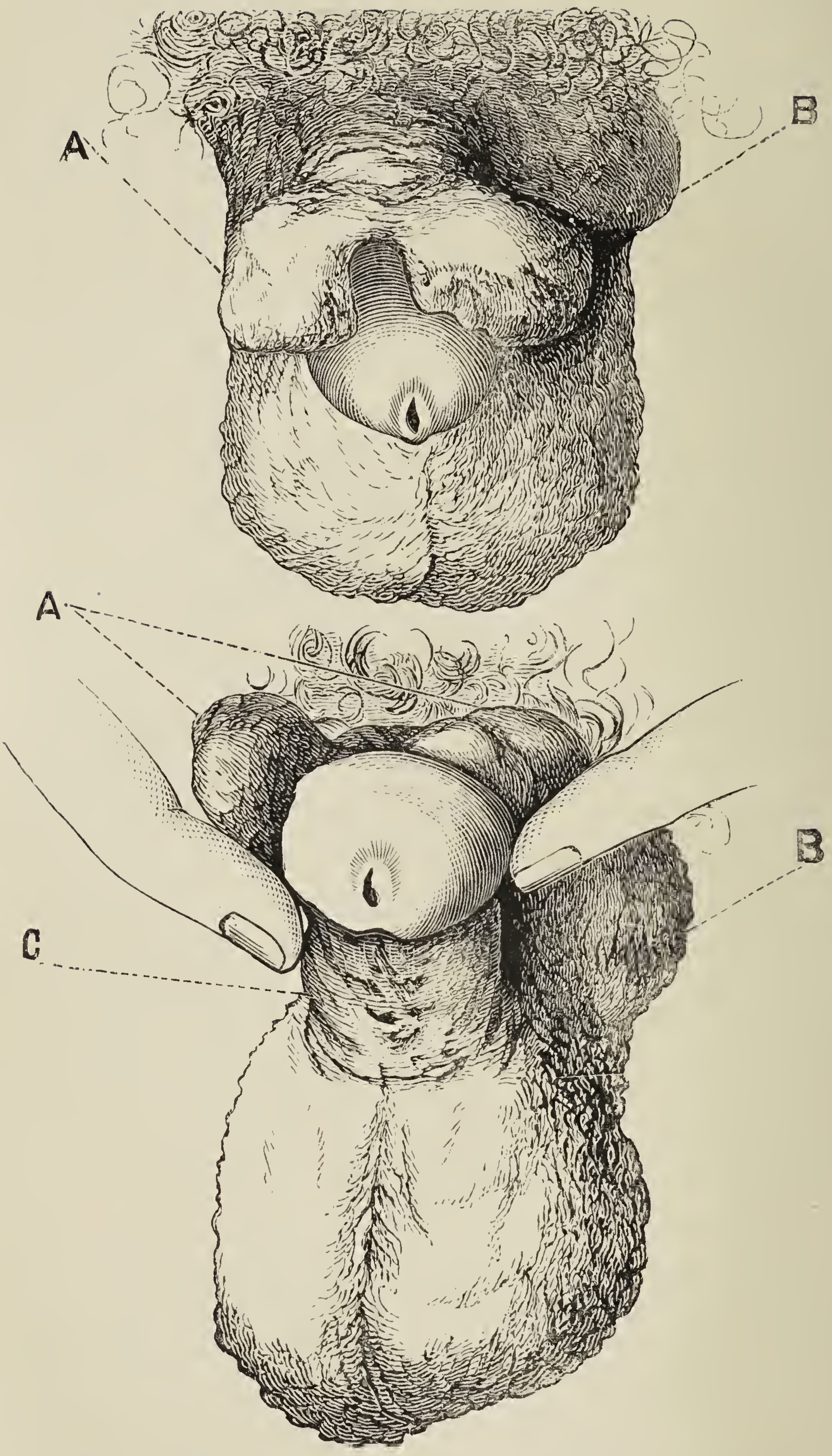

RARE FORM OF URINARY SINUS, ABSCESSES, ETC.—PAGE 152.

(Reversed from original drawing.)

A. Stump of œdematous prepuce. *B*. Urinary abscess. *C*. Urethral fistulæ.

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Original Communications.

ART. I.—*Cerebro-Spinal Fever.* By J. B. HAMILTON, M. D., Assistant Surgeon U. S. A.

THE substance of the present paper was read before the Medical Society of Jersey County, Illinois, in April last, and at that meeting some remarks were made by a medical gentleman present, to the purport that the mortality shown in this report was its most remarkable feature. I passed over this objection, and proceeded to give some statements of other observers, which I here transcribe. It is but fair to state that only the worst of the cases are here recorded, and that others were seen in every possible grade, from those that seemed moribund from the outset, to those that lingered along for twelve and even twenty weeks, and then died, or finally recovered after a tedious convalescence. I may remark here that the cases of cerebro-spinal meningitis that get well do not recover speedily, but that convalescence is always protracted, sometimes out of proportion to the severity of the attack. I have reported those cases only that were unmistakable, to avoid the possibility of error in diagnosis, and to demonstrate the worthlessness of bromide of potassium in such cases.

Mortality.—"The duration of the malady is very various.

Patients may become rapidly comatose, and die within twelve hours, before any distinctly febrile action has commenced, or sink in a few days; or, on the other hand, the complaint may pursue a very chronic course, lasting for weeks, and during this time deafness and blindness, convulsions, retention of urine, and partial palsies—though this is very unusual—may be prominent phenomena. *In any case the prognosis is highly unfavorable;* especially so when the symptoms are violent, or the signs of spinal disturbance preponderate" (Dacosta, "Medical Diagnosis," second edition, p. 95); and again, p. 682: "The affection ran generally a very rapid course, many died on the third day, some perished in a few hours, occasionally it was protracted for several weeks."

Hartshorne, in his "Essentials of Practical Medicine," first edition, p. 286, says: "More than half the cases die. Those who survive three days have a fair though not certain prospect of recovery."

"During the first week of the disorder, the prognosis is unfavorable in malignant cases, doubtful in all" (G. Wheeler Jones, "Transactions Illinois State Medical Society," 1873, p. 238; ibid., p. 241). "During the past eighteen months, so far as I can learn, the disease has appeared in its most deadly and sweeping forms, in those localities noted for their malarial maladies in ordinary."

Dr. E. T. Spotswood ("Transactions American Medical Association," 1873, p. 170) says: "It is prevailing now in the district in which I live, and in one county, of 117 cases, there have been *only* 15 *recoveries.*"

Dr. J. B. Johnson ("Transactions American Medical Association," 1873, p. 174): "A great many persons quote a large number of cases under this head as having been cured. It was only a day or two since I heard of a physician in this county who stated that he had had sixty-eight cases, and not a single death. Now, I do not believe that that man has seen a case of cerebro-spinal meningitis; when I hear a man talk about curing sixty-eight cases of pure cerebro-spinal meningitis, I know there must be some mistake about it, or Providence specially favors him. I know it is a very fatal disease."

"One of the most dreaded of the epidemic diseases, on account of the great mortality which attends it. The statistics of 52 of my cases show: recoveries, 26; deaths, 26." J. Lewis Smith, *American Journal of Medical Sciences*, October, 1873, p. 334.

Mortality at Hardwicke Hospital, Dublin, 1866, 80 per cent. Stillé, "Epidemic Cerebro-Spinal Meningitis," p. 102.

Hirsch ("Epidemic Cerebro-Spinal Meningitis") has published a table exhibiting the mortality from 1838 to 1865, from which it appears to have varied in the different epidemics between 70 and 20 per cent. During the Massachusetts epidemic in 1865 and 1866, the mortality was 61 per cent, 170 deaths in 278. It declined to 30 per cent. in the Philadelphia Hospital, and Dr. Stillé says (p. 72): "It is to be observed moreover that, while ten epidemics in various places, occurring between 1838 and 1848, presented an average mortality of 70 per cent., a similar number occurring between 1855 and 1865 give an average mortality of only 30 per cent."

From this he argues "a gradual decline in power in the epidemic cause" (p. 72, *op. cit.*). In my own practice outside of those I have seen in consultation, out of 12 marked cases, 7 proved fatal, or a mortality of 57 per cent., and of these it must be borne in mind that nearly all the deaths occurred before the adoption of the eliminant plan of treatment, and three died within twenty-four hours. Dr. P. Tenity states that, since the adoption of this plan by him, he has not attended a single case which proved fatal. This plan will be outlined farther on. I had not read the very excellent work of Dr. Stillé, of Philadelphia, on this subject, until our epidemic was past, or very likely my attention would have been arrested by the following paragraphs, an observance of which might have mitigated our epidemic:

"In the early history of epidemic meningitis in this country, we find much greater stress laid upon various means adapted to warm the patient's body, than is to be observed in recent publications upon the subject either in Europe or America. The body *must* be got warm, the skin moist, and the energy of the pulse restored, *or the life of the patient is gone*, are the emphatic words of Strong.

"The unanimity predominant is sufficient to establish the fact respecting the utility of heating and sweating remedies, says North. According to Jackson, the patient is first put into a warm bath (others insist that it shall be hot), or his feet bathed in warm water; then being well rubbed, he is to be laid in bed between blankets, and bedclothes added in proportion to his sensations, or to his actual temperature when his sensibility is very much diminished. Around him are to be placed bottles of hot water or billets of wood heated in boiling water and wrapped in flannel, or he is to be wrapped in flannel wrung out of boiling water; sinapisms are applied to the feet, and he is to swallow frequently some warm liquid. . . . Under this treatment most commonly the violent symptoms, and, not very rarely, all the appearances of disease, have subsided.

"It is difficult to explain why a method which has in its favor the testimony of sound experience, and the strongest possible reasons based upon analogy and well-established principles of therapeutics, should have fallen into such disuse as almost to have been forgotten" (Stillé, pp. 147, 148).

I here present a record of a few cases which occurred during an epidemic of this disease in Kane, Greene County, Ill., in the winter of 1873–'74, with a few remarks thereon, intended to throw a little more light on the treatment of the disease, and indirectly upon its pathology.

The interesting characteristics of the disease, its extraordinary fatality, the obscurity attending its origin, would be sufficient excuse for inflicting upon the profession another tome in addition to the able articles that have lately appeared upon the subject, but the writer ventures to express the hope that these bedside records may induce those high in authority in the profession to adopt a more lenient method of medication than the blistering and sedative plan of treatment too often recommended by them, and blindly followed by lesser lights.

The ideas recommended here have grown upon me as I have watched the progress of the epidemic, and became more and more dissatisfied with the orthodox pathology and treatment.

Case I.—Samuel Johnisee, aged nineteen, son of a farmer, living three and a half miles west of Kane; sent for me December 17th. Patient had rigors yesterday, fever until to-day; found him comatose, but still able to swallow, when spoon is pressed against fauces; pressing open the eyelids, find the pupils widely dilated. Prescribed bromide potassium, and enemata to open bowels, sinapisms to extremities, ice-poultices to head and back of neck.

18*th.*—Fever higher. Coma more profound, vomits green matter from stomach. Clinches teeth when medicine is presented to lips, refuses food or stimulants. Ears cold; nose pinched, notwithstanding general heat of surface. Continue treatment, and patient died at 5 P. M.

CASE II. *December 20th.*—Jesse White, aged fifteen, farmer's son, boy of good full habit, hearty and robust looking. Had a light "chill" (rigor) yesterday, has had fever ever since. Pulse 85, respiration 80, bowels regular, headache, inclined to sleep, wakes up from sleep with a start, says he is "not very sick." Has no appetite, pupils dilated, tongue furred just a little in centre. Ordered mustard foot-bath with mustard to extremities afterward. Prescribed potassium bromide in solution, and zinc valerianate in powder, the former every hour, the latter every two hours.

21*st*, 9 A. M.—Feels better this morning, passed a tolerably comfortable night, is sure he will be well to-morrow. No tenderness over cervical vertebræ, tongue and pulse about the same as yesterday. Respiration labored; complains of muscular soreness, arms and legs.

4 P. M.—Symptoms much the same, but patient shows want of continuity of thought, and has high fever. Pulse 110 to 120. Skin very hot; add veratrum viride to the solution potassium bromide, and discontinue the zinc.

22*d*, 9 A. M.—Patient decidedly delirious; ordered egg-nogg and beef-tea every half-hour, alternately, no limit being placed on quantity of the latter. Some retention of urine, and requires the use of catheter, and, as the fever continues, keep up the solution before given, and give spts. etheris nit., with tr. opii camph. for the retention.

4.30 P. M.—Fever not so high; passes urine and fæces involuntarily; quite stupid, but rouses when spoken to;

imagines himself away from home, and insane fancies obtrude themselves, and any thing thought or dreamed by the patient is spoken outright; some things said are funny enough to make the gravest laugh, even while the terrible footprints of the disease are visible.

There is to-day some opisthotonos. Applied a blister from the nape to the lumbar region along the spine.

23d, 8.30 A. M.—Patient stupid, but can be roused, seems to know his attendants. Pulse 130, respiration 36 and irregular; discharge of urine and fæces still involuntary. Vomits occasionally a greenish-yellow fluid; swallows with avidity any thing presented to his lips. He seems to have entirely lost the sense of taste. No petechia, but skin of legs very red from sinapisms. Blister very sore; has slipped from its position and blistered nearly the entire back. Opisthotonos was more marked than yesterday; lies on his side, cannot bear to be turned in bed. The stimulants and potassium bromide were continued. Ice to head.

24th, 25th and 26th.—Patient continued much the same, but becoming gradually more delirious and weaker; refused nourishment or stimulants, and died of exhaustion, at 6 P. M.

CASE III. *December 26th.*—Pleasant Reno, aged nineteen; hearty, robust young man; had a severe chill at 3 P. M., to-day; high fever ever since; pulse 100; very violent; wants to "get up and go away;" requires two or three strong men to confine him in bed; when spoken to, recognizes me, and is immediately quiet, but relapses into delirium again on closing the eyes. Bowels constipated; prescribed the pil. cathart. co. of the Pharmacopœia. Gave potassium bromide in large doses, and directed stimulants from the outset; caused a large bowl of egg-nogg to be made very strong, of whiskey, and patient not to be limited in quantity. Cold applications to head, and sinapisms to extremities.

27th.—Patient still delirious; bowels have moved freely; has taken the entire bowl of egg-nogg, and cries out, in a whining tone, that it does him good; has high fever; complains of the back of neck and head; pupils dilated; was seen by Dr. I. T. Crow in consultation; advised tincture iodine to spine, Calabar bean internally, and other treatment continued.

28th, 29th, and 30th.—Disease and treatment continue almost the same. To-day examine urine, and find it heavily charged with albumen; thereupon change the potassium bromide for potassa acetate; use stimulant lotions to skin; believe the albumen to have come from the use of egg-nogg. A tumor has formed over the ligamentum nuchæ, which, on being opened, discharges pus freely.

31st.—Patient much improved; has been sweating profusely all night, and rested somewhat better, but is still delirious, although the delirium is not active; wants to get up and put on his clothes; insists there is nothing the matter with him. Strange enough, he wishes some one to sing to him, and, when gratified, will sleep just as long as any one will sing; it seems to make no difference whether the tune is adhered to or not, or in fact whether any semblance to a tune is kept up; the rhythmic measure of words seems to be all that is essential.

The treatment was continued until January 5th, when the patient seemed so much better that further treatment was unnecessary, but the mind of the patient was not fully restored until recently. Abscess formed on each tibia, which healed rapidly after being opened.

Case IV. *December* 29, 1873.—George Dressel, aged six; called at 4 P. M.; child taken from school at two o'clock with high fever; had a chill day before yesterday; pupils non-dilated; complains of pain in back of neck; feet cool; talks hurriedly; seems very much excited; no appetite; tongue clean; pulse 110. Ordered potassa bromide in solution, and fld. ext. Calabar bean, in four-drop doses; warm foot-bath, and sinapisms to extremities.

30th, 9 A. M.—Patient much the same; has rested moderately well throughout the night, but has occasional fits of restlessness. Pulse 115; tongue slightly furred; complains of sore-throat; tonsils swelled and fauces inflamed. Ordered weak solution of iodine applied to tonsils and fauces, and continue treatment.

4 P. M.—Inflammation subsided in throat, and an eruption appeared over the upper part of neck and chest. On inspecting the body, find the skin has the fiery-red hue of scarlatina, and, on drawing the finger across the surface, the track of the

finger is left in white for several seconds. Were an epidemic of scarlatina prevailing, I should say scarlatina at once; but I go on and treat as before: potassium bromide with Calabar bean; ice-water to head, and sinapisms to extremities.

31*st*, 6 A. M.—Called, to find child in active delirium. Opisthotonos—neck and back rigid; child now and then screaming with pain; has not slept through the night; the fever is not high, but the pulse is very rapid, 130 to 140; still swallows, but with considerable difficulty. A blister was now applied along the spine, two inches wide, and stimulants freely administered. Bottles of hot water were placed in the bed, and the extremities were kept warm by friction with flannel cloths and dry mustard.

3 P. M.—Condition much the same. Dr. Crow, of Carrollton, met me in consultation, but made no change in treatment.

January 1*st and* 2*d*.—Patient continued in much the same condition, wholly unconscious; tossing wildly in bed; always bending head and spinal column backward, partly, no doubt, to relieve the pain caused by the blister; refuses food or medicine; fever very high; and died, after a paroxysm of screaming, at 6 P. M.

CASE V. *January* 3, 1874.—Walter Witt, aged three and one-half. Called at 4 A. M.; found the child apparently not very sick; some fever, but child is very talkative, though he is ordinarily very quiet; head quite hot; feet warm; tongue furred; bowels costive; skin dry and tolerably hot; pulse irregular. Ordered a purgative dose of calomel, and the potassium bromide in solution. Child to be placed in a bath at a temperature of 85°.

3.30 P. M.—Child still has some fever; bowels have not moved from the cathartic, and the skin is not moist. The bath having failed in producing sudoresis, an enema was ordered, which moved the bowels freely. The bath was continued every six hours. The solution of potassium bromide was continued. The little patient died at 6 A. M., January 4th, seeming to sink from exhaustion, growing weaker from the moment of the operation of the enema.

CASE VI.—George Elmore, aged seven. Called January 5th; found child in comatose state; utterly unconscious; lips blue; face pallid; extremities cold; general heat of surface of body; pupils dilated; pulse very irregular. Cannot be aroused when spoken to, but will swallow any thing when placed against his lips; ordered child to be placed in warm mustard-bath; solution of potassa acetate and whiskey-and-water internally; Calabar bean until pupils are contracted.

6th.—Patient somewhat relieved, pupils contracted to a normal standard; patient will not take stimulant, but takes the potassa acetate and Calabar bean; takes milk and soup when offered him; great soreness of muscles; coma relieved to some extent; passes urine involuntarily, no albumen. Calabar bean discontinued; potassa acetate continued. From this time until the 18th the patient seemed to be doing as well as could be expected. Had a good appetite, just a little fever, but could not turn in bed without assistance. At this time an abscess formed on the back of the neck, which discharged a large amount of pus. Now the fever exhibited marked periodicity, coming up every night about midnight and leaving at 9 or 10 A. M. He was therefore put upon quinine in large doses, and the diuretic was continued. He is now (February 2d) under treatment. Since the above was written, patient died in a convulsion in April—date lost.

CASE VII.—Katy Williams, aged eleven. Called at 11 P. M., January 8th. Patient had complained of headache all day, had a chill in the afternoon, and has now a high fever; has no nausea, but has no appetite; pupils dilated, bowels costive; *subsultus tendinum;* talks excitedly; apparently badly frightened, her sister having died the week previously. Ordered warm bath and solution potassæ acet. with fld. ext. valerian. As the pupils were dilated, used Calabar bean in four-drop doses. Case was apparently progressing to a favorable termination, when an irregular practitioner was called in and relieved me from further responsibility. The patient unfortunately died on the third day.

I learned through some parties that the said irregular practitioner gave a warm bath every half-hour, and a rousing emetic every *five minutes.*

CASE VIII.—Annie Bushnell, aged two and a half. Called January 15th. Patient, as usual, had a chill, but a very slight one, and complained of intense pain in her feet; so much so, that the grandparents, in whose care she was, supposed she had hurt herself by falling over some wood. The child rapidly passed into a high fever, threw back her head, the pupils were dilated, and at intervals she would start up and scream wildly. The now usual diuretic was administered, a warm bath ordered, and patient was soon sweating profusely, and forgot all about the pain in the feet. From this time until the 25th the case progressed favorably; now and then a little fever, but generally none. Stimulants were daily administered, and now the patient seemed entirely to lose the power of motion of the arms, and both arms and hands were considerably swollen. Tinct. iodine was applied to spine, and potassium iodide, with aquæ camphoræ and syr. sarsaparilla, was substituted for the potassa acetate. The arms were bathed with a lotion of tincture aconite root, tincture of opium, and chloroform, which seemed to have a happy effect in relieving swelling and pain. She gradually grew stronger, but it was soon found that she could not stand, had no power of locomotion, and she crawled about the room like an infant. She did not recover the use of her limbs until fully three months after the beginning of the attack. She is now well.

Case IX.— —— Turpening; little girl, aged nine.

January 23d.—Found patient anxious, no fever, vomiting almost incessantly. When lying still, a greenish-yellow fluid is ejected from the mouth; runs out without any apparent effort on the part of the patient; feet cold; pulse very weak, rapid, difficult to count, about 140; perfectly conscious; has headache, and is badly frightened. Ordered bath, mustard-poultice over stomach; gave bismuth, with valerianate of zinc, in powder—the former to control vomiting, the latter as an anti-spasmodic; gave potassa nitrate as a diuretic, and stimulants to relieve the evident exhaustion. There was no albumen in urine. All measures to control vomiting failed, and the patient sank and died at 1 P. M., January 24th.

Case X.—Fannie Streetmaker, aged three, was taken sick January 30th, and had been under the care of another practitioner for twenty-four hours. He had seen her once, given pulv. pil. hydrarg., with sulph. quinine, and medicine had operated freely. Child was very stupid, vomited often, very sick at stomach, opisthotonos, retention of urine, high fever. Continued in this way until February 2d, when an exact record was kept. It is proper to state that there was great amelioration of the symptoms from this time.

February 2d.—Temperature 101° Fahr., pulse 130, respiration 34; tongue furred; patient tolerably quiet; eats when asked, but has no appetite; has slept little; has an anxious expression. Continue usual treatment, viz., fluid extract ergot, with spts. ammonia arom., potassa acetate, baths, and sinapisms to extremities.

3d.—Pulse 140, respiration 28, temperature 102½°; tongue clean, retention of urine. Add veratrum viride to the solution of potassa acetate, and give egg-nogg.

4th.—Pulse 120, temperature 101°, respiration 32; resting quietly, has some appetite, no retention, does not wish to speak or move. Continue treatment.

5*th.*—Pulse 110, respiration 25, temperature 106°; tongue furred; complete anorexia; great thirst, but skin is moist; lips very sore. Discontinue ergot-mixture; solution of potassa acetate, with veratrum viride, continued; give potass. iodid., with sulph. quinine in syrup. Less soreness in muscles than yesterday.

6*th.*—Pulse 110, temperature 104½°, respiration 36; skin moist. Has taken a little toddy with a cracker; rested very well throughout the night; no muscular soreness; takes medicines well; has a dry cough, and there is crepitus in right lung. Patient is now quite deaf. Discontinue veratrum; order hop-poultice to side, and spirits turpentine every four hours; the quinine, potassa acetate, dissolved in camphor water, continued.

7*th.*—Pulse 118, temperature 104½°, respiration 46; tongue thickly furred, some retention of urine, perfectly rational; has slept all night; takes rice, cracker in a little whiskey-and-water; cough loose, moist crepitus. Continue potassa acetate in camphor water, turpentine, and give three-grain doses, in powder, of quinine.

8*th.*—Pulse 104, respiration 18 (thermometer not at hand); tongue furred, anorexia; has eaten nothing; skin moist, turns *herself* in bed for the first time; bladder greatly distended; relieved by catheter. Quinine and turpentine omitted; continue potassa acetate.

9*th.*—Pulse 106, respiration 38. Tongue furred, brown in centre; lies very quiet. Bowels costive, skin dry, general torpidity of system; order four five-grain doses of pulv. pil. hydrarg. Continue potassa acetate.

10*th.* — Pulse 110, respiration 30, temperature 100½°. Tongue cleaner, no appetite. Blue mass operated freely, has slept well. Order tinct. ferri chlor., gtt. v, every three hours.

12*th.*—Pulse 102, respiration 44, temperature 101½°. Anorexia. Bowels moved twice yesterday. Patient restless, tongue brown in centre and red edges, skin moist, was very restless last night, head thrown back, soreness of muscles. Nurse applied sinapism to spine, with immediate relief. Give quinine in three-grain doses each morning. Tinct. ferri chlor. fever-mixture to be resumed if fever returns.

Patient continued in much the same condition for four or five days, when the appetite returned, and the patient is now (March 8th) rapidly recovering.

This patient, like No. 8, recovered with a palsy of the lower extremities, which gradually disappeared.

Case XI.—Ralph Van Pelt, aged nine, was taken with a very slight chill at about 6 p. m., February 25th, was comatose, and had a high fever in half an hour; was called at 12 p. m., found him unconscious. Coma very profound, but could be made to swallow by forcing open the mouth and pressing spoon with medicine against the fauces. Pupils dilated, sensation apparently lost. Vomits occasionally a yellow fluid; opisthotonos. Gave quinine in large doses, with potassa acetate, and ordered bath every hour or every two or three hours, the interval being governed by the restlessness of the patient; when very restless, to bathe often; if not, a longer interval was allowed. While in the bath the patient seemed to rally, but would immediately relapse into stupor on being taken out; no perspiration was excited, and the patient continued in the same condition until about 11 p. m., February 26th, when he sank from exhaustion and died.

I shall always regret that I omitted the ergot-mixture in this case, but the patient was apparently moribund on the occasion of my first visit.

In consultation with Dr. P. Tenity, of Kane, Greene County, Ill., I have seen very many other cases equally severe, some of which, apparently as severe as any, were amenable to treatment. I am not much in favor of set formulæ, but should I be called to treat a case to-day I should outline the treatment as follows: For the first twenty-four or forty-eight hours—

℞.	Ext. ergot. fl.	℥j.
	Sp. ammon. arom.,	℥ij.

A teaspoonful in a little water every four hours.

℞.	Potass. acetat.,	ʒxij.
	Aquæ camph.,	fl℥vj.

A tablespoonful every two hours until diuresis is produced.

In addition to these remedies I should direct a warm bath, followed by wrapping in flannel or rubbing with dry mustard, every three, four, or six hours according to the urgency of the case. Stimulants may be necessary from the outset.

As soon as the symptoms show any amelioration, the ergot-mixture may be diminished in frequency, and at the third or fourth day discontinued. Quinine in large doses will then be found of advantage, and a more stimulant diuretic, as spts. etheris nit., may be substituted for the potassa acetate; and for the sequelæ nothing in my hands has proved more serviceable than iodide of potassium as occasion demanded.

This treatment was arrived at only after finding the utter worthlessness of the bromide-of-potassium treatment, which is so much relied on by some practitioners, and I have no doubt but many cases seen by me, not reported, which were only symptomatic, and were speedily relieved by this treatment, would, by the ordinary method, have been as violent as the first cases here recorded, and would have met the usual fate.

I wish to enter an emphatic protest against the treatment of cerebro-spinal meningitis as an inflammation.

It is a zymotic disease, and the fever and localized inflammatory process depend upon a miasmatic poison.

In the beginning the skin is always dry; the secretions throughout the body are arrested. This is generally before the practitioner sees the case, and the patient often dies from retention in the blood of excrementitious material. When the excreting organs are at once overpowered by the malarial poison introduced from without, the patient dies suddenly, a victim to chemical forces generated within his own body.

No treatment will be of any avail which does not have *elimination* for its primary object. The best method of that elimination may be a matter of dispute, but, as elimination by the kidneys is unattended by depression, that method would seem preferable. The skin is an eliminating organ of great importance, and all possible advantage should be taken of that physiological fact. Happily, diuretics and diaphoretics are easily combined, and the warm bath with mustard excites the sudoriparous glands.

The retention of urea in the blood is shown by the objective symptoms, and the uric-acid smell in the perspiration; and the great relief afforded by diaphoresis and diuresis gives further evidence of the toxæmic condition of the patient.

The treatment outlined has been found reliable, and this view of the pathology of the disease will, I think, bear the test of time and patient investigation.

ART. II.—*Cholera: Does it originate de novo? A Sketch of Prevalent Opinions on the Subject, with a Remarkable Case.* By WILLIS ALSTON, M. D., Littleton, N. C.

OWING to the general opinion in the profession that cholera is always of specific origin, it is with some hesitancy that I venture to advance any views to the contrary; yet, when we consult the standard authorities, we find the etiology of cholera-disease clothed in vagueness and supposition. Dr. Cullen says, "It is evident that this disease is the effect of a warm atmosphere producing some change in the state of the bile in the human body;" evincing a great want of any correct or definite notion of its cause.

Again, let us see what such men as Drs. William Stokes, of Dublin, and John Bell, of Philadelphia, say on this subject, quoting from a *brochure* prepared by Drs. Condie and Bell, in 1832, being a "Report of the College of Physicians of Philadelphia to the Board of Health:" "In Russia, Prussia, and Austria, where the greatest efforts were made to set limits to the disease by sanitary cordons, and the most rigid system of quarantine existed, the period between the attacks of cities and districts was not any longer than in India, where the most unrestrained intercourse by sea, and along rivers and roads, was allowed. . . . Sometimes the disease would nearly depopulate small villages near a principal station *before* it made its appearance at the station. Perhaps we could not cite a stronger example of the difficulty of explaining, by any known law of transmission, or order of succession, an attack of cholera, than its sudden appearance in the heart of Paris, the first city in France to suffer from the pestilence. Equally sudden and unexpected was the bound, as it were, of the disease from Montreal to the city of New York." Again, they say, sometimes "one division, in one street only of a town, had the disease existing in it; nay, its presence has been known to be limited to one side of a market-place;" and further they say: "The cause which gives rise to cholera is unknown to us. That it is in the atmosphere, we have every reason to believe, but in what state or how combined, we cannot ascertain. The most probable supposition is, that it is a peculiar poison. It is, however, encouraging for us to know, as we now positively do, from all which has transpired in the history of the disease, that the concealed general or aërial cause is comparatively harmless, unless effect is given to it by subjection to evident modifying agencies." Let us follow the progress of the literature a little further and see what Dr. Wood says in his practice. "The nature of the specific cause is unknown, and speculative minds have attributed it to the influence of the stars, to certain meteoric phenomena, to electrical conditions of the atmosphere, to the presence of ozone in the air, but no facts exist to prove any thing more than a mere accidental connection between these circumstances and the appearance of cholera. Some have been disposed to refer the results to invisible animalculæ." Its irregular mode of attack, its rapid advances, long pauses, and sudden resumption of movement, its distant extensions from the regular line of march, its frequently capricious choice of localities, would seem to favor the notion of its animalcular origin." Let us follow up the subject even to our own time, and see if any further solution of this great problem has been made. We find, by referring to Austin Flint's work on practice, that he is still in doubt as to the nature of the cause which operates in the production of cholera, though he seems to accept the idea of its specific origin. He says: "It is strong evidence of our ignorance that those fanciful theories are as satisfactory as any which have been proposed." Let us see further what that greatest of all writers upon "Practical Medicine," Felix von Niemeyer, says in regard to the causation of this disease. The very first line from which we quote (vol. ii., p. 625) reads thus: "It is possible and even probable that, where cholera is endemic, it results from miasm," thus granting that it *may* occur endemically and originate *de novo* in other countries besides India. Dr. Edward Goodeve, M. B., Deputy Inspector-General of Hospitals, H. M. Bengal Army, first Physician to the Medical College Hospital of Calcutta,[1] in his definition of cholera says it is "an epidemic, and in some places an endemic, disease of great mortality." In his etiology of the disease he says: "The predisposing causes of cholera are doubtless common to some other epidemics. The exciting cause is probably an aërial, or at all events an air-borne poison, and probably of the zymotic class. We do not know, however, whether it is of an organized, organic, or inorganic nature. We are much in the dark as to its origin, preservation, multiplication, or diffusion."

Again, quoting Dr. Goodeve, "Although it is *probable* that cholera is spread by human intercourse, it is indisputable that it originates in places where it is impossible to trace *any* communication with infected persons. This has happened over and over again in towns and large establishments in which the outbreaks, after the greatest perseverance, could not be accounted for by any previous exposure to infection." And lastly, I quote from an article on "Epidemic Cholera in South America," by Enrique M. Estrazulas, M. D. He begins by saying: "It is generally held that cholera can never be produced *de novo*, and has never been so produced; still we think that an examination of the following facts in relation to its occurrence in Paraguay will be interesting as tending to the establishment of proper views on the subject." I refer those wishing to see the article, to the July number (1873) of the *American Journal of Medical Sciences*." I will merely sum up the headings:

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[1] "Reynolds's System of Medicine," 1870.

1. Cholera was unknown in Paraguay and La Plata previous to 1866.

2. Before the armies were stationed at Estero Bellaco, no case had occurred, and after the removal of the troops the disease totally disappeared.

3. No vessels from infected ports arrived at La Plata or Paraguay previous to 1866.

4. If cholera had been imported from abroad, the city of La Plata ought to have been the first attacked.

5. Troops coming from Brazil could not have brought the disease with them, as it did not exist at any Brazilian port or city at the time.

6. Cholera appeared first in Paraguay, and, following the course of the rivers, infected in its downward march all the cities on its banks.

7. The disappearance of the successive epidemics followed an inverse route to that of invasion.

8. The Paraguayan army, where the disease first appeared, was secluded from the rest of the world, and completely blockaded by land and water.

9. The disease remained endemic for three years in Paraguay. Now, in cholera, the combination of causes we conceive are, soil-changes, vegetable and animal composition, atmospheric influences, overcrowding, filthiness, etc., etc. Why, then, should not the same combination of causes give rise to cholera in any other part of the world where they exist?

I have summed up all the foregoing to sustain me in the diagnosis of a case occurring in an inland village, removed some distance from any great water-course, save the Roanoke River, the distance being seven or eight miles to the nearest point. Running through the village is the Raleigh & Gaston Railway. The diseases most prevalent in the village and vicinity are fevers, malarial and typhoid, with a goodly share of pneumonia, and for the past two or three summers a good deal of diarrhœa and dysentery.

On the morning of the 18th of July, 1873, I was aroused early to see K. F., aged nineteen years and a few months; he had had, the winter previous, a severe attack of pneumonia. When I arrived at the house, about six o'clock, A. M., he informed me that he had been sick four or five hours, violently; had had slight diarrhœa a day or two (in fact, there was a good deal of diarrhœa in the village); at six o'clock, he thought that he had had about fifteen operations since they began, after midnight; they were very copious and fluid. He went to stool soon after I arrived, giving very little warning of the event to by-standers, and a large dejection, attended by no pain, speedily filled the vessel quite half-full of a dirty-looking liquid, almost clear, with a few flocculi floating about in it. He sat some time on the vessel, and said he felt relieved. I felt his pulse, found it very feeble and frequent; skin almost cold and clammy. I hurried him to bed; he soon called for water, and, after drinking freely, vomited in a few minutes, apparently without effort, large quantities of fluid similar to the discharge voided by the rectum. As soon as the vomiting ceased, he had severe cramps in the calves of his legs, thighs, fingers, and toes, and in the abdomen; they were so severe that he could not refrain from crying, and continued to do so. As the day wore on, the evacuations became fewer in number, still retaining the rice-water color, very copious, and unattended by pain. The pulse became feebler and feebler, and the heart-sounds were almost imperceptible, with cold, clammy skin, sunken eyes, a cyanosed appearance of the extremities, and circum-orbital rings, pointed nose, and intense thirst, while the whole surface of the body seemed almost as cold as ice; he said that he was burning up, and "*Water, water, water!*" was the incessant and imploring cry. About eleven o'clock, A. M., the evacuations were less frequent and copious. The vomiting continued at intervals, without nausea, gushing forth as from an over-distended stomach. On each occasion of asking for water, I told him I thought it made him vomit; he would cry as a little child, yet could not shed a tear. At noon the symptoms were no better, although I had given French brandy and quinine in large doses, preceded by opium and astringents, and applied warm applications of every description; covered him with mustard-plasters, rubbed him with liniments containing Cayenne pepper, and put him in warm water—all to no purpose.

His evacuations ceased after twelve o'clock, and the urine was suppressed; his skin hung about him in folds, and presented the appearance of that upon the hands of washer-women after being soaked a long time in water. The cramps in his calves, thighs, abdomen, and fingers, continued. Toward daylight there was no abatement of symptoms, and hope for his life had wellnigh fled; his voice became very feeble, and strikingly suggestive of the "vox cholerica" of authors. During the night, the constant cry of "Water!" told to his hearers his great distress. His mind seemed to be in a state of apathy and great indifference, although rational to the last. He tossed to and fro upon the bed, throwing his arms and legs in every conceivable position; his respiration grew more and more embarrassed, and his breath and tongue became cold, as the night wore away. Now and then, after the ingestion of water, the vomitings would return. The pulse, toward the last, was almost entirely gone, and the heart-sounds very feeble and indistinct. These symptoms continued up to the time of death, which occurred from exhaustion about sunrise on the morning of the 19th, being about thirty hours from the time of the attack. Two hours after death, when his attendants were shrouding the corpse, the body became warm, and automatic movements of different parts of the body would take place. In attempting to put his hands upon his chest, they fell out of position and to his side; his under jaw was with difficulty kept tied in a position with the upper, and the eyes, half closed, were sunk deep in the orbits, and were as dry as parchment; his nose was pointed, and seemed to project far beyond his cheeks.

Setting aside the supposed cause of this case for a while, we will first institute the inquiry, "How are we to recognize disease?" If we are not to recognize disease by its symptoms. both objective and subjective, upon what can we rely for correct diagnosis? Taking the above case upon its symptoms alone, without going into the origin or exciting cause, we would necessarily be compelled to recognize the disease to which they point. And I can say here without hesitation that I believe all the symptoms were correctly observed (for I watched them for thirty hours) and honestly delineated; and with such data I am forced to the conclusion that I was dealing with cholera. I know too of the rarity of the disease in isolated districts, and the great difficulty in assigning specific causes to the disease in such localities. On the day before the morning upon which this patient was taken, he walked four miles in the hot sun, with a looseness of the bowels, and bathed in a mill-pond while he was warm and perspiring. He bathed in another pond of stagnant water soon afterward. In this pool of dirty, slimy water he played about two hours under a burning sun, and it is likely also he swallowed some of the dirty water; he came out, and walked home in the afternoon; soon after getting home he purchased a large quantity of blue plums, unripe, and ate as many as he wanted, slept in a close, unventilated, dirty room adjoining his father's store, and was taken violently ill *after midnight*, as I have before described. Now, we had not heard of any cases of cholera in close proximity to our village, none nearer than the cities (we know last year was a cholera year), and we do not know of any case passing through privately or by rail; yet it seems that during these cholera years people are more liable to have simple and choleraic diarrhœas, which all the authorities say if let alone are likely to terminate in cholera, especially so if they have great exciting causes, as were present in the case above described. We might continue this paper to an almost indefinite length, discussing the non-communicability of the disease by contagion, showing a reason why others in the village were not similarly affected. However, after the death of this young man, two men were taken severely with (as I took it) cholerine or choleraic diarrhœa, both of whom I saw at once. By the timely administration of opiates and astringents, the discharges were checked and fear dissipated. It is in general true that the disease does not spread from isolated cases. Without going into the symptoms of *cholera morbus*, we may say that death occurring from it is of so rare occurrence that Dr. Flint, in his large experience, has never seen a case, except in infants. To sum up the case, we may conclude as follows:

I. We recognize disease by symptoms peculiar to itself.

II. The symptoms in this case point to cholera as follows:

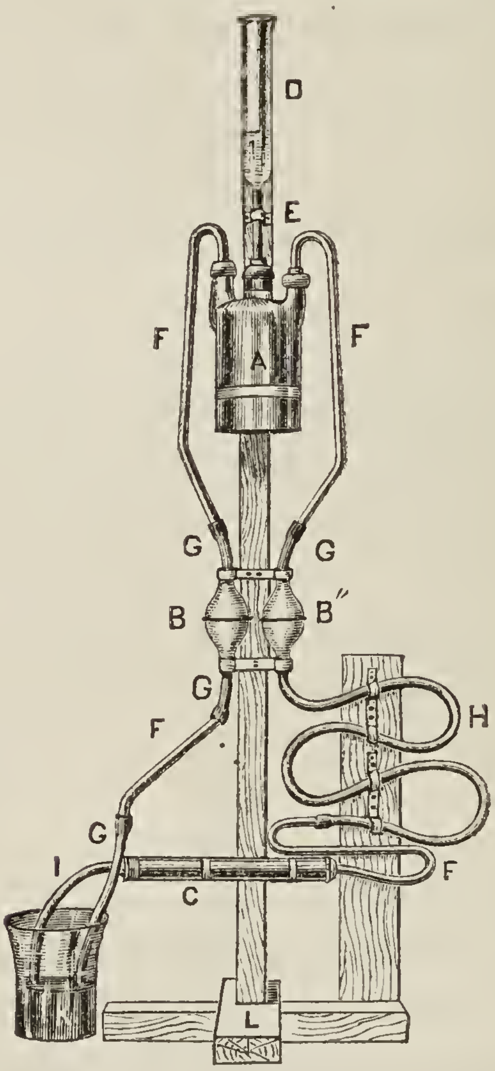
1. Occurring in the early morning, after midnight.
2. Diarrhœa without pain, and liquid ejected forcibly.
3. After several hours, involuntary vomiting without nausea.
4. Occurrence of stools like rice-water, cramps in legs, thighs, fingers, toes, and abdomen.
5. Pulse feeble, frequent; cold and clammy skin; heart-beats indistinct.
6. Discharge from the bowels less frequent and copious; intense thirst.
7. Deadly coldness of surface; wrinkled skin, as of washer-women.
8. Urinary secretion suppressed; tears dried up.
9. Great restlessness; continued intense thirst.
10. Respiration embarrassed; breath and tongue cold.
11. Collapse, apnœa; blue around the eyes; cyanitic extremities; death.
12. *Rigor mortis* marked; *post-mortem* elevation of temperature; contraction of muscles.

ART. III.—*Mode of illustrating Lectures on the Circulation of the Blood.* By STUART ELDRIDGE, M. D., Surgeon-in-Chief North District of Japan; in charge of the Imperial Medical School, Hakodadi, Japan.

BEING engaged in teaching medicine to a class of students but few of whom have a knowledge of any Western tongue, and whose native language is peculiarly unfitted for conveying accurate description, even with the aid of the best interpreter, I have found object-teaching of even greater assistance than with students at home, though it is difficult to exaggerate its value in any circumstances. Thinking that some of my devices, necessarily rude and home-made as they are, may be of value to other laborers in similar fields, I have jotted down a few notes upon them. Some of my apparatus may be new, but, if so, I am unaware of the fact, and, even if the idea be old, my methods of construction at home and from scanty materials may be useful to any who, like myself, are debarred access to mechanics competent to execute such work.

Schema of the Circulation.—This is constructed by the aid of two Davidson syringes, some glass and rubber tubing, and a Woulf's bottle. The construction can be easily understood by reference to the diagram (Fig. 1).

Fig. 1.



A is an ordinary three-necked bottle filled with fragments of broken glass. This represents the lung. *B′B″* the bulbs of two Davidson syringes, representing the right and left heart. *C*, a wide tube or lamp-chimney filled with fragments of sponge. This to represent the systemic capillary circulation. *D* is a short, wide burette tube (I have used the barrel of a large glass syringe), which is connected to the middle neck of the Woulf's bottle by a short rubber tube, upon which is an adjustable pinch-cock at *E;* this burette and tube represent the trachea. *FFFF* are glass tubes, which, with the rubber connecting tubes *G G G G*, and *H*, represent the veins and arteries. *H* is long, flexible, soft, and mounted in reduplications. *I* is a short rubber escape-tube. *K*, a beaker or other vessel.

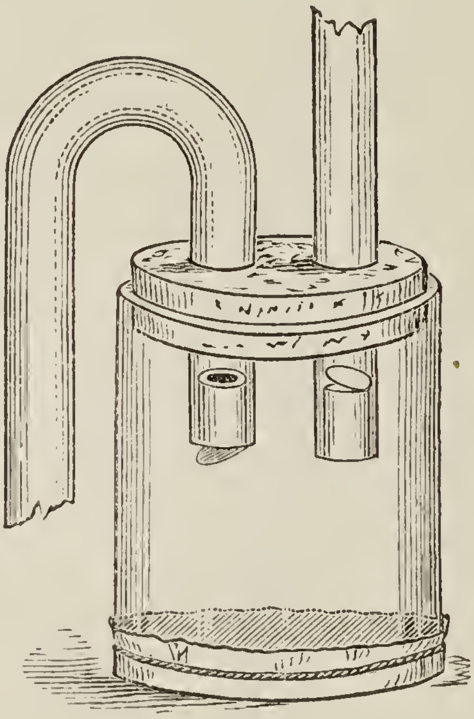
To operate the apparatus, the burette *D* is filled with a solution of tartaric or other weak acid. Among the fragments of sponge in the tube *C*, are placed pieces of caustic potassa or soda, or, what is better from its less ready solubility, of a dried mixture of either of these alkalies with gum. The beaker *K* is then charged with blue litmus-water, and the bulbs *B′ B″* worked till the bottle *A* is filled with the fluid. On adjusting the pinch-cock at *E* so that a small portion of the acid fluid may enter the bottle, the litmus solution of course becomes red and remains so during its circulation through the rest of the apparatus till it reaches the tube *C*, when its color is restored by the action of the alkali. From the tube *C* the fluid passes into the beaker *K* once more, and, if the solubility of the alkali in *C* and the amount of acid admitted from *D* are carefully proportioned to each other, the same litmus-water may be passed repeatedly through the apparatus.

The elastic and contorted rubber tube *H* enables the student to understand the pulse-action of the arteries, and, if desired, a multiplying lever, on the principle of the sphygmograph, may be adapted to this part of the model, to render the motion of the tube-wall more apparent. The whole apparatus is mounted upon a support *L*, so that the lecturer may stand behind it, while, if required, a strong light may be thrown through the glass parts by a lantern.

The syringe bulbs, *B′ B″*, may be elegantly replaced by short wide glass tubes, closed at top by perforated corks through which the vessels pass, and at bottom by rubber diaphragms upon which the fingers of the operator produce, by intermitting pressure, the necessary contraction of space. The advantage of the substitution of glass for the syringe bulbs is, that the action of the valves may be seen. If this modification of the apparatus is preferred, the valves may be readily constructed by inserting, in the ends of the glass tubes which enter the heart-chamber, pieces of rubber tube cut squarely at one end, and having on this end small disks of rubber fastened by a pin through one edge (*see* Fig. 2).

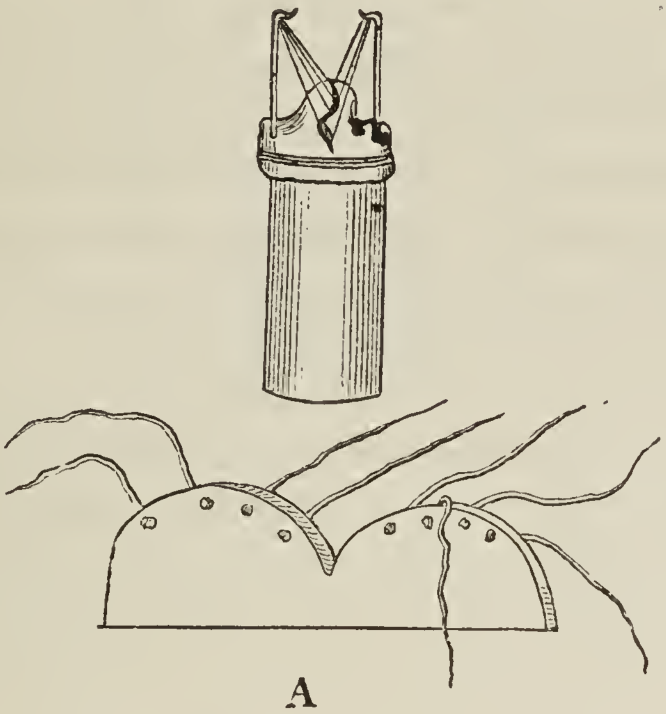
Many schemata of the circulatory system have been before constructed, such as those of Weber and Marey, and notably that of Prof. Rutherford (*see Journal of Anatomy and Physiology*, vol. vi., 1872, p. 249, *et seq.*), but these have been especially intended for the study of the dynamics of the circulation, and do not, I think, present to a class of students the main points so strikingly as does the one above described. For the study of the higher problems of the circulatory forces, nothing so far can equal the beautiful apparatus of Prof. Rutherford.

FIG. 2.



For the exhibition of the action of the cardiac valves alone, I have constructed two simple pieces of apparatus. To show the action of the mitral, and the check given by the chordæ tendinæ, I have used that represented by Fig. 3. A short wooden tube has bound around one end a piece of soft leather or kid, of the shape given at *A*. To the semicircular margins of this leather are fastened short pieces of fine silk to represent the chordæ tendinæ. These cords are then fastened to the heads of two hare-lip or insect pins, bent as shown in the figure. These pins are pushed firmly into the end of the wooden tube, and the whole inserted in the barrel of a large glass syringe to the nozzle of which a Davidson syringe is adapted. When the leather has become saturated with water the valve works well, and, by applying the ear to the tube, the sound made by the chords as they become tense may be distinctly heard.

FIG. 3.



A

To illustrate the semilunar valves, a somewhat similar apparatus, constructed with the help of the tips of three fingers of a kid glove, answers very well.

By placing upon the edges of the valves, in these pieces of apparatus, small split shot or fragments of wax, the various mechanical relations of obstruction or regurgitation may be shown in a rude but effective manner.

Clinical Records from Private and Hospital Practice.

I.—*Report of the Surgical Cases treated in the St. John's Riverside Hospital, Yonkers, N. Y., during the Year* 1873 (*Fourth Year*). By J. H. POOLEY, M. D.

[CONCLUDED FROM THE DECEMBER NUMBER, 1874.]

CASE VI. *Foreign Body in the Trachea.*—On the evening of June 20th, about seven o'clock, I was summoned in great haste to the hospital with the message that a child had been brought in choking to death with something in its throat. I hastily collected such instruments as might be necessary for tracheotomy, and repaired to the hospital.

I there found a child named William B——, aged two years, in a condition of most alarming asphyxia, and gathered the following facts from the father, who was present: The child had been sitting at the supper-table with the family, eating meat, when all of a sudden it was taken with a most severe fit of choking; the father seized the child in his arms and ran with it to the hospital. When I saw it, it was already insensible, quite blue in the face, almost pulseless, and breathing in gasps at long intervals. I passed my finger down the œsophagus as far as possible, but met with no obstruction there; upon listening to the chest, respiratory sounds were completely abolished; the heart was beating feebly.

There was evidently no time to be lost, and I at once divided the three upper rings of the trachea, opening that tube freely; the operation was accomplished without delay or difficulty, but the child, who was quite unconscious of the incisions, only breathed a few times afterward, and died while efforts were being made to discover or dislodge the foreign body.

At the *post-mortem* examination next morning we found in the middle of the trachea a large uncooked garden-pea, which completely occupied its lumen; no mechanical contrivance could more completely have occluded the trachea than did this smooth globular body.

When and how it obtained its entrance is a mystery, as there were no peas at the table when it was taken with the choking; and it had had no previous attack of strangulation that was known of, nor had the parents seen any peas in the child's possession during the day.

Only two suggestions present themselves: it may, perhaps, possibly have been inhaled some time during the day, and retained in one of the ventricles of Morgagni, and dislodged during supper—we proved by trial that these spaces were large enough to have contained it—but still, this is extremely unlikely; more probably it was retained in one of the mucous folds at the top of the larynx, and dislodged thence during an act of deglutition; at any rate, the case was a very singular one, and no doubt our ignorance of the nature of the foreign body prevented our efforts at its removal from being as appropriate and effective as they might otherwise have been.

Case VII. *Separation of the Upper Epiphysis of the Humerus.*—Alice F——, aged twelve, born in the United States, admitted July 2d. A short time before, she had fallen from a tree, striking on the left shoulder, and, on being taken up, it was found that the left arm was quite useless, and painful on being moved.

On examining her at the hospital, the following facts were noticed: there was apparently some depression of the shoulder, but not marked, as ordinarily seen in a dislocation; there was no globular swelling, like the head of the humerus in the axilla, but in front of the limb, an inch or more below the joint, there was a peculiar pointed, but not sharp projection.

Upon moving the arm, the patient being chloroformed, an unnatural mobility was discovered high up near the shoulder, and an obscure crepitus was detected. Though I had never seen a case of this kind before, I had no difficulty in diagnosticating a diastasis of the upper end, or anatomical neck of the humerus.

The arm was put up in a pasteboard splint made to cover the outside of the arm and the top of the shoulder; this was afterward changed for a similar contrivance made of tin; but neither of these splints seemed fully to meet the indication, and better coaptation was obtained by bringing the arm close to the side, and the elbow well up by broad strips of strong adhesive plaster.

The dressing was left on for three weeks, and then removed; union was found to have taken place, but the peculiar projection in front of the shoulder was nearly as marked as at the time of the accident, and there was considerable limitation of motion; passive motion was made use of every day, and considerable improvement took place, but when she left the hospital, July 26th, she could not yet raise her hand to the top of her head. I saw her at the expiration of several months, when motion had become all but quite perfect, and this arm was practically as good and useful as the other; indeed, she knew no difference between them, but the prominence in front was still quite noticeable, though not as marked as when she left the hospital, and on measurement the injured arm was found to be half an inch shorter than the other. I do not know how rare this accident is; this is the only example of it which I have seen.

The best account to be found of it in literature is in Robert W. Smith's treatise on "Fractures in the Vicinity of Joints." His description of the symptoms and the anatomical conditions involved is very thorough and accurate, and has formed the foundation of all that has since been written on the subject, although his plate of the peculiar deformity is undoubtedly exaggerated.

He gives a description of a case which coincides very exactly with the one above related, of which he says, "Various mechanical contrivances were employed in this case, but all proved ineffectual in maintaining the fragments in their proper relative position;" and then goes on to make the following remarks, which are fully borne out by our isolated experience: "It is not to be imagined that any moderately well-informed surgeon will be likely to confound this injury with any other incidental to the upper extremity of the humerus; but I am sure that, however experienced the practitioner may be, he will find the treatment of the case embarrassing, and that it will require the exercise of all his ingenuity and skill to prevent a certain amount of displacement from being permanent, and to counteract the influence of the muscles, which unceasingly act upon the lower fragment. The consolation, however, remains, that, notwithstanding the deformity, the patient will ultimately regain the almost unimpaired use of the limb."

This is the state of the case as Dr. Smith left it, and thus has it remained until quite recently, when Prof. E. M. Moore, of Rochester, has shown that the reason of the resulting deformity is to be found in the fact that, hitherto, surgeons have failed to reduce it in the first place. From a thorough and exhaustive review of this subject, and a careful and independent study of the anatomical conditions, he has discovered a method by which it may be easily and thoroughly reduced.

This is accomplished by completely extending the arm at right angles to the trunk, and, owing to the irregularities and serrations existing between the ruptured or separated surfaces of the diaphysis and epiphysis, when once reduced the separation has no great tendency to recur, and any simple extension apparatus is sufficient to complete the cure.

The doctor has verified the correctness of this position by the treatment of several cases on the principles here set forth with absolutely perfect results; he has also demonstrated his method to the surgeons of New York City, several of whom, as I am informed, have tried it with equally good results.

He also brought the subject before the last meeting of the American Medical Association, in whose transactions no doubt a complete description and explanation of it will be found. Whether it has had any other publication I do not know; I await with interest an opportunity of trying it for myself.

Case VIII. *Hypertrophy of the Nose.*—R. W., a native of the United States, aged sixty-four years, admitted August 1st.

He was admitted for delirium tremens; he has evidently once occupied a respectable position in society, but habits of drunkenness have brought him to the condition of an abject pauper.

He attracted my attention by the remarkable appearance of his nose. This organ is very much enlarged, particularly at its end, which presents the appearance of a large, unsightly bulbous projection; it is of a deep-purple color, and thickly studded with round depressions or excavations, the sunken orifices of enlarged sebaceous follicles, from which he can squeeze out numerous worm-like particles of the contained sebaceous matter. Believing that something could be done to improve his appearance, which was rendered exceedingly grotesque by this unseemly proboscis, I proposed the subject to him, and found that he was not only willing but anxious to have me try.

Accordingly, on August 8th I operated on his nose, by cut-out a thick, wedge-shaped piece from the end—all that could be removed, indeed, without injuring the septum—and uniting the flaps by silver sutures; before operating, I had supposed, from its feel to the finger, that tissue was soft and spongy, but, to my surprise, when I came to cut it, I found it very hard and firm; it consisted mainly of hypertrophied dermoid elements.

12*th.*—Four days after the operation the sutures were removed, and union found to have taken place so perfectly that scarcely a perceptible cicatrix was to be seen, and when he was discharged he was very much improved indeed; his nose was of a respectable size and shape, and had lost most of its exuberant richness of hue; this last result being no doubt largely due to his enforced abstinence while in the hospital. When I performed this little operation I had never read or heard of a similar one, but since then I have come across a case of Mr. Syme's so similar and so illustrative of the subject, that I cannot forbear transcribing it.

I quote from Maclean's edition of Syme's "Surgical Works," p. 850:

"E. M., aged eighteen years, came from the country on the 26th of April, complaining of her nose, which, although originally not different from that of other people, had four or five years ago undergone a remarkable alteration, that rendered her countenance, not ill-favored in other respects, extremely peculiar and repulsive.

"This deformity was an expansion of the extremity into a globular shape, not depending upon enlargement of the skin merely, as happens not unfrequently in the male sex at an advanced period of life, but being a morbid development of all the tissues, so that even the columna was longer than usual. In the ordinary case of integumental hypertrophy of the nose, it is well known that tumors, no matter how numerous or enormous, may be removed without any inconvenience, since they only require to be shaved off, without taking away the skin through its whole thickness, so that the cutaneous surface which remains cicatrizes with nearly the same rapidity and facility as the one caused by a blister. I have, therefore, not scrupled to perform operations of this kind even at or beyond the age of eighty years, where the growth had become so large as to render existence very uncomfortable, by exciting the ridicule and disgust of those who witnessed it. But the condition of this young woman did not admit of remedy on such a principle, and at first sight seemed an improper subject for interference. The patient's urgency having led me to reconsider the subject, I resolved to try the effect of removing a wedge-shaped portion of the prominence, and did so on the 6th of May, by means of two decided longitudinal incisions, embracing the projections, passing through the cartilages, and meeting at some distance down the septum. The edges of the wound were brought together by silver sutures, and united so that they left no trace of their existence, the nose not only being rendered very shapely, but allowing the other features to present their naturally pleasing aspect."

These are the only two cases of this kind that I know of.

CASE IX. *Gangrenous Ulcer.*—Elisha P——, aged sixty-five years, a native of the United States, admitted August 10th.

He has been a very intemperate man ; twelve years ago he had venereal disease. In April of 1869 a sore made its appearance on his left leg, near the ankle, about the size of a silver dollar, which increased in size, and he was sent to Bellevue Hospital, where a portion of the fibula was exsected and the leg healed up.

After leaving the hospital he commenced drinking again, and again the sore broke out in the following spring. He went to Bellevue again in July, 1870, and returned cured once more in September of the same year. He resumed his intemperate habits, the sore broke out again, and by the spring of 1872 had got quite bad, but was held somewhat in check by the use of carbolic acid; it has not been healed since this last recurrence in 1872, and since last spring has been getting worse very rapidly.

However, he kept up, and was walking about until August 2, 1873, when he took to his bed; his appetite has been very poor for a long time, and since his going to bed he has eaten nothing at all, and has taken no stimulant during this last week; he has complained very much of thirst.

Upon his admission to the hospital he had a large gangrenous ulcer, involving nearly the whole of the lower third of the left leg, exposing about four inches of the tibia, which was perfectly bare, dry, rough, and of a dirty-brown color.

The foot was cold, of a bluish hue, and several of the toes were gangrenous; the gangrenous parts are quite black, in some places dry and hard, in others moist and exuding a thin, filthy, and stinking discharge, thus presenting a mixture of the two forms of gangrene, dry and wet.

The immense ulcer on the leg was filled and heaped up with thousands of large, full-grown maggots, presenting a most disgusting sight, and stank abominably. Chloroform was freely poured over the ulcer, which killed the maggots instantly; they were then scraped away by the handful with a spatula, some adhering so forcibly between the muscular interspaces, and under the edge of the bone, that they had to be separately pulled away with the forceps.

The poor old man's condition generally was filthy in the extreme, showing an utter lack of care for a long time back. The pulse was scarcely perceptible at the wrist, and there was every evidence of rapid sinking. He was ordered whiskey, beef-tea, and milk, as much as he could take, and five grains of carbonate of ammonia every hour.

August 11*th*.—Continues about the same as last night; pulse, though very feeble, can now be counted beating about 100 in the minute; no urine having passed since his admission, a catheter was introduced, but no urine was found in the bladder; continue nourishment and stimulants as before.

12*th*.—He remained about the same, with some embarrassment of respiration and hiccough, and died at 9 P. M.

Post Mortem.—Only the leg was examined. The connective tissue and muscular interspaces for some distance above the sore were infiltrated with a putrid sanies, and the muscles themselves softened and discolored.

About an inch and a half of the lower end of the fibula, commencing just above the malleolus, was wanting, the upper and lower remaining portions of the bone terminating in smooth-pointed extremities.

Several inches of the lower end of the tibia was rough, and of a worm-eaten appearance, presenting the aspect of superficial caries or ulceration of bone; there were no surface necrosis and no particles of loose bone to be seen.

The anterior tibial artery was calcified throughout its whole extent, and formed a rigid, unyielding tube. The whole body was extremely emaciated; *rigor mortis* well marked.

CASE X. *Traumatic Tetanus*.—Johanna O'C——, aged thirty years, native of Ireland, admitted October 29th; married, mother of six children; says she has always been healthy.

Ten days ago, while in a state of intoxication, she fell and struck her right hand against a sharp, jagged stone, inflicting a lacerated wound diagonally across the dorsal surface of the first phalanx of the ring-finger, near the joint.

She brought it together with sticking-plaster, which next morning she changed for a poultice, and then for soap-and-sugar, and then for some salve, ingredients unknown; but among all these means of treatment cleanliness was never included.

About four days after the injury, the finger became very much inflamed, and discharged a thin matter, in moderate quantity, which continues to the present time.

The wound presents an unhealthy appearance; the discharge is thin and sanious, and it is filled with pale, rather luxuriant granulations. The day before her admission she began to have stiffness of the jaws, and pain in the masseter muscles, also in the head, and chest over the sternum, reaching down to the epigastrium, and in the back of the neck.

The pain, though complained of all the time, is increased in paroxysms, which are accompanied with spasm of the masseter and muscles of the neck, with marked retraction of the head, and spasm of the muscles of respiration.

The paroxysms are quite severe, and accompanied with difficult respiration, sobbing, and loud complainings. She is a woman of violent and utterly ungoverned temper and emotions.

Her skin is moist and natural, pulse weak and small, 106 per minute, respiration 40, temperature normal.

She says she has not eaten much for a week, first from pain in her hand and arm, latterly from inability to open her mouth. Her tongue is coated and of a dark-purple color; her incisor teeth cannot be separated for more than a quarter of an inch—barely that—any attempt to open them more widely provokes pain and spasm; during a paroxysm they are tightly closed. Pupils normal, responsive to light; urine copious and natural.

She was etherized, and a free incision made over the injury down to the bone, and considerable pent-up offensive matter discharged; the bone was found carious and the joint completely disorganized. The injured finger was enveloped in a flaxseed-poultice, and five drops of a tincture of Calabar bean (equal to one grain of the bean) ordered to be taken every hour, with strong beef-tea and milk at about the same interval.

The administration of the Calabar-bean was commenced at noon; she had paroxysms every ten minutes up to 5 P. M., one between 5 and 5.45 P. M., and none during the night, resting pretty well.

30*th.*—Had a spasm at 7 A. M., and another at 9, more severe; pupils not at all contracted. To take ten drops of the Calabar tincture every hour. *Noon.*—Has had very frequent paroxysms since morning; gave half a grain of morphia hypodermically, which procured some sleep; ordered the tinct. Calabar to be increased to twenty drops every hour. 4 P. M.—Has had another half-grain injection of morphia, since which she has had no spasms up to 6 o'clock, and is much quieter, and sweating freely; complains of itching of the skin (effect of morphia); pulse 100, temperature in the rectum 100½°; mouth can be opened to the extent of half an inch.

31*st.*—Has been pretty quiet during the night, but has had some hard spasms; at 5 o'clock was in great distress; an hypodermic injection of half a grain of morphia quieted her as before; had two more paroxysms between that and 9 o'clock. Ordered twenty-five drops of the Calabar tincture every hour; mouth opens three-quarters of an inch.

Evening.—Condition about the same as last report; skin cool and sweating.

November 1*st.*—Patient had a bad night, slept very little; has had three hypodermic injections of morphia of half a grain each since the last report; is tolerably quiet now. Pulse more rapid, up to 120; opisthotonos more marked than at any time; ordered the tincture increased to thirty drops every hour.

Evening.—Has been worse all day, paroxysms have been frequent and violent, necessitating two hypodermic injections as before; she has taken less nourishment, and is weaker; spasms are both more violent and more general; breathing and swallowing both interfered with; is cyanotic. Increased tincture to forty drops.

2*d.*—Patient had two hypodermic injections last night; she is quieter to-day, has had no decided paroxysms, her neck is firmly retracted, but her jaws open better. To-day she is to take fifty drops of the tincture every hour, to take it every two hours through the night; whiskey, an ounce every two hours, added to her milk and beef-tea.

3*d.*—Patient failing; no paroxysm, but she is partially delirious, and very weak, with rapidly-failing circulation. She died quietly at 9.30 A. M.

Her temperature, which was carefully recorded three times a day, never rose higher than 100½°, and was most of the time normal. No *post-mortem* examination was permitted.

Notwithstanding the fatal issue of this case, it was evident that the Calabar bean had great power in controlling the paroxysms, and I felt strongly encouraged to give it further trial. Large as the doses administered in this case may seem to some, they were almost trifling compared with the quantities I have since exhibited in a severe case with the happy result of curing my patient; and I am firmly convinced that we have now a powerful agent for the control and cure of tetanus, only it must be given in unsparing doses, utterly without regard to quantity, but of course not without careful watching for its physiological effects, which, however, I must say I have seen nothing of as yet. This may seem strong language to use on such a slender experience as mine; but, if one waits for a large experience in tetanus before forming or expressing an opinion, he may wait a long time; and I am already firmly convinced that we should have accumulated many more favorable facts to guide and encourage us, had this remedy been more fearlessly and heroically given. I do not inculcate rashness, but I would certainly begin with as large doses as I left off with in this case, and push it unhesitatingly until the physiological effects, such as feebleness of the heart's action and contraction of the pupils, demanded a cessation, or the tetanic spasms were controlled.

The patient whose case we are considering was in every respect a bad and unpromising subject, addicted to intoxication, dirty and abandoned in all her habits, and withal miserably poor and run down from irregular and insufficient nourishment.

Upon reflection I am obliged to confess that I think the local treatment was not wholly defensible or above criticism. I am now convinced that the injured finger ought to have been amputated. If this had been done, and the stump left open, and dressed with warm water, or an aqueous solution of opium, it might have added a trifle to her chances; although, as it was very freely opened, so as to discharge all secretions as soon as formed, perhaps a great deal of stress cannot be laid on this.

Before this case I had only seen three other cases of traumatic tetanus, all of which terminated fatally, and which I propose briefly to recite in this place, for the purpose which will appear in the sequel. They are as follows:

January 7, 1862.—I amputated the thigh of a boy, fourteen years of age, who had been run over on a railroad, in Washington, D. C., but had no other charge of the case until symptoms of tetanus declared themselves.

The amputation was performed just below the trochanter major, by the circular method; and the patient, notwithstanding an evident lack of proper care, went on very well until the *thirteenth* day after the operation, when symptoms of tetanus, with lockjaw and painful spasm of the stump, set in, and, in spite of all that could be done, the patient expired at the end of the second day from the first appearance of these symptoms. The large wound left after such an operation as this is not of the kind that is usually looked upon as likely to be followed by tetanus. It does not seem probable that a nerve-end had been included in any of the ligatures, or the symptoms would have come on sooner, and the weather was not hot of course, neither was it excessively cold. But there was one condition that existed, though it ought not, which deserves attention. I have never seen a serious surgical case so badly neglected as this was; the stump was abominably filthy, and was tightly bandaged up, apparently without any preliminary cleansing, which bandage was left undisturbed for three or four days at a time, when, as might be expected, the condition of things within was fearful.

In the summer of 1865, since I have been in Yonkers, the following case occurred: A man got his hand mangled in some machinery at one of the hat-factories, and went to a homœopathic physician, who dressed it at his office. He subsequently, the next day I think, went to a regular practitioner, who dressed it for him, but appears to have paid very little attention to it.

The next day, the third from the injury, he sent for me, and I found him suffering from well-marked tetanus. The hand was in a very filthy, stinking condition, done up in a large poultice which had evidently not been changed for some time; there were several parts of fingers in a state of gangrene, and the whole hand seemed hopelessly lost. As he was very poor, and his surroundings extremely wretched, he was sent down to a hospital in New York in a carriage, with some sulphuric ether to inhale for the alleviation of spasm by the way, but he died soon after reaching the hospital.

June 28, 1868.—I was asked by Dr. Arnold to see with him in consultation a young man, who had the night before, in a street fracas, received a pistol-shot wound in the right thigh.

I found the patient, a fine, athletic young Scotchman, about nineteen years of age, in bed, with a small, round opening, as of a bullet-wound, about the middle of the external aspect of the right thigh, over the course of the vastus externus muscle.

Dr. Arnold, who had been called to him the night before, soon after the receipt of the injury, had not been able to find the bullet, which was evidently a small one. I was equally unsuccessful. Cold-water dressing was applied to the wound, and rest enjoined; there was scarcely any pain, swelling, or redness, about the limb. The case went on very favorably for several days, there being scarcely any evidence of inflammation, and no discharge from the wound.

July 4th.—Just about a week from the infliction of the injury I was again requested to see him at 10 P. M. I found him in an advanced stage of tetanus, he was strongly opisthotonic, his body resting on the heels and occiput, while his back formed a high arch under which several pillows were stuffed; his jaws were firmly locked, the risus sardonicus well marked, and his whole appearance frightful in the extreme.

Every few minutes he was seized with universal spasms, in which he roared out from excess of agony. Pulse quick, tongue clean.

These symptoms of tetanus had come on the day before, and their importance was at first overlooked by the family, who failed to notify the doctor.

An hypodermic injection of twenty minims of Magendie's solution of morphia was administered at once, and one drachm of bromide of potassium ordered to be taken every hour.

These remedies alleviated the symptoms somewhat, but he died the next morning at seven o'clock, and at 3 P. M., the same day, I proceeded, in the presence of Dr. Arnold and the friends of the patient, to examine the wounded leg.

On making the necessary dissection, I found the bullet, a somewhat singular one, being formed of tin-foil, such as is used to wrap tobacco in, rolled and pressed together into a pretty firm ball; it was quite small, and somewhat disintegrated, and was found in the middle of the vastus externus muscle, surrounded by a small quantity of dirty, fetid pus.

Although carefully looked for, no special injury of nerve-fibres could be detected. It is important to remark that the weather at this time was most extremely hot.

It will be seen that all these cases (and for this reason the last three are added) have one fact in common, and that is the retention in or in contact with the wound of decomposing and irritating matter; and I am led to believe not only that this was the provoking cause of tetanus in these cases, but that it is a more frequent cause than is generally believed.

Of course it is not intended to intimate that this is the sole, or even that it is the *most frequent* cause of tetanus. The first proposition would certainly not be true; neither probably would the second, though I am by no means so sure of this. I have not had the time to make an extended examination of recorded cases of tetanus to find out in how many, or in what proportion of them, such a condition obtained, but I think such an inquiry would be well worth while, and might shed great light on the question.

I desire not to be misunderstood as saying that this suggestion has any thing new about it; nothing of the sort, I know better; it is given among the causes of tetanus in many works, and by various authors, but without any special emphasis. It is generally taken for granted that some special injury or implication of nerve-fibre should be found or hypothecated as the provoking cause of tetanus, but I do not see why this should be so any more than in the very analogous disease hydrophobia. Surely, if in this disease the introduction, and possibly localization, of a virus may produce all the wonderful reflex phenomena which characterize it, why may not a similar condition exist in tetanus, at least in a larger proportion of cases than hitherto supposed?

Case XI. *Dislocation of Humerus and Clavicle.*—Lewis S——, colored, coachman, born in the United States, aged thirty-four years, admitted December 19th.

He was thrown from his carriage and sustained various injuries, for which he was brought to the hospital. He was considerably bruised about the right hip, but no special injury could be detected.

There was a dislocation of the acromial end of the clavicle on the left side, and he said that the right shoulder had been dislocated in the fall, but when he had been taken hold of by the arm to lift him up it had gone in again. There was no appearance of dislocation about the shoulder, but, on taking hold of the arm to examine it more particularly, a dislocation into the axilla was immediately produced, and as easily reduced again, thus confirming his previous statement. This was the more remarkable, as he had never had a dislocation previous to the present accident.

The clavicular dislocation was treated by placing a pad over the end of the clavicle, and endeavoring to keep it in place by a broad piece of stout adhesive plaster carried over the shoulder and across the chest.

Being anxious to return to his family, he was discharged December 24th, but did not resume his work for some weeks. The acromio-clavicular articulation became quite firm, and presented but a very moderate amount of deformity; the shoulder gave no trouble at all; the pain, especially on exercise, about the bruised hip, was the most lasting result of his injury, but this gradually wore away.

These cases of double dislocation are somewhat rare. I reported an interesting one of dislocation of the humerus forward, and of the sternal end of the clavicle of the same side, in the *American Journal of Medical Sciences* for July, 1865.

With regard to the spontaneous reduction of dislocations, the following case, which came to my notice several years ago, is worthy of a passing remark:

A lady was thrown from an open wagon, the horse running away, and struck against a stone-wall by the road-side.

The messenger who came for me stated that her principal injury was to one of her hips; that the limb on that side was fixed, and any attempt to move it gave her extreme pain. I went to her house, some miles off, expecting to find a dislocation of the hip, and when I arrived received the following account:

When she was brought home the limb was fixed, and painful upon any attempt at motion, as already said; those around her further informed me that it was shorter than the other, and the foot turned in; on lifting her into bed, some one took hold rather roughly of the injured limb, when she screamed out with pain; a snap was audible to every one present, and a moment after she exclaimed, "Now it's all right," and so it appeared. I found no sign of any existing dislocation or fracture, and there was nothing beyond some slight cuts about the head, and a soreness of the hip, which kept her in bed for a week. I feel as sure as I can be without having seen it, that there had been a dislocation of the hip, probably on the dorsum ilii, which had been reduced unwittingly in the manner stated. Perhaps these are not strictly *spontaneous* reductions, but no other descriptive term suggests itself, and they are at any rate as near it as can readily be imagined.

II.—*A Case of Long-standing, Grave Reflex Disturbance, associated with Urethral Contractions, and a Rare Form of Urinary Sinus; resulting in Abscess and Fistulæ. Division of the Contractions, with Immediate Relief from the Reflex Trouble.* By F. N. OTIS, M. D., Clinical Professor of Genito-Urinary Diseases, College of Physicians and Surgeons, New York.

X. Y., PHYSICIAN, aged fifty-seven years; has never had any form of venereal disease; no vicious habits from early childhood. Had a very redundant prepuce, which, from frequent attacks of balanitis, became more or less adherent to the glans penis. Up to the age of nineteen years could only uncover one-half the glans. By systematic effort, however, during a period of six months, the adhesions between the glands and the internal reflexion of the prepuce were completely broken up. He had no further trouble up to the age of twenty-two years, when he married. On first intercourse, the frenum (which was very long and attached at the inferior edge of the meatus) was ruptured, occasioning severe hæmorrhage, and a considerable degree of soreness for several days. He remembered no further annoyance up to the year 1857, when, at the age of fifty years, he had what was then supposed to have been an attack of "dumb ague" (irregular chills and fever), which, in spite of the usual antiperiodic remedies, continued for a space of two months. To this a jaundice succeeded, and, at about the same time, the left side of the scrotum became swollen, red, and heavy; not sore to the touch, except on firm pressure. Heavy aching pain felt in the tumor at times, without apparent cause. No treatment resorted to except that of supporting the mass with an ordinary suspensory bandage. This condition of things remained, without any marked change, for five and a half years, when (in September, 1873, being in low condition from overwork) a small carbuncle made its appearance on his nose, and was soon followed by another, three inches in diameter, on the left side of the neck, which lasted, with much suffering and debilitation, for about three weeks. At this time a circumscribed cellulitis occurred at the most dependent portion of the swollen and indurated scrotum. After a few days' poulticing an opening occurred in the integument, which discharged pus, and was filled with shreds of disorganized tissue, similar in appearance to those which had characterized the *débris* of the antecedent carbuncles. For this reason the scrotal lesion was considered by the patient and his attending surgeon to be of a carbuncular nature; there was, however, but a single opening. Under simple treatment this supposed carbuncular abscess was discharged fully in about a week, and, by the close of the third day following, had filled and perfectly cicatrized. In about a week from this time, another circumscribed cellulitis appeared on the scrotum, about an inch above the first, passing through the same phases, and healing completely in about the same time. Another interval of a week, and a third abscess, precisely like the previous ones in accession and course, occupied the superior portion of the scrotum, after the complete healing of which, the entire scrotum was left quite free from inflammation, induration, or any abnormal appearance. During the next week, another lesion apparently of the same nature occurred on the corresponding side of the penis, three-quarters of inch from the root, giving more pain than any of the previous abscesses. This, after opening, did not heal, but ran along under the integument of the dorsum anteriorly for about an inch, when it there "broke through and discharged carbuncular *débris.*" The two openings were united by a division of the intervening integument, which was thin and red. The burrowing of pus continued along the dorsum penis to the fossa glandis, when the prepuce became completely phimosed. An opening into the preputial cavity in the vicinity of the fossa glandis soon occurred, and pus was freely discharged from the preputial orifice. In trying to wash out the prepuce with a syringe, it was found that the injected fluid traversed the entire length of the dorsum penis, and emerged at the first opening. A small collection of pus was found on the *right* side, which likewise opened in the preputial cavity. At this time the prepuce was very œdematous, and urination was difficult and painful; the pain extended beyond the penis into the thighs, the calves of the legs, and even occupying the entire heels, not only when urination was attempted, but at night when the patient was endeavoring to sleep. Opiates were given, McMunn's elixir of opium or chlorodyne, but in small doses, from ten to thirty drops, two or three times during the night; larger doses were not well borne, aggravating the unrest. After some weeks the doctor took a sea-voyage, hoping for benefit from change, as his general health had become greatly impaired. After being at sea for some twenty days, with no perceptible benefit, the swelling of the prepuce suddenly increased, and a purple spot appeared on the integument of the dorsum, just behind the glans. The tissues at this point soon gave way, exhaling a fetid odor, and an opening occurred about the size of a dime, which became permanent. The tension of the tissues was now somewhat relieved, but urination continued difficult, and the pains in the thighs, legs, and *heels*, which had hitherto been felt chiefly at night, now continued throughout the day, and were severe, almost beyond endurance, notwithstanding the use of opiates internally and various local appliances. Returning from the voyage after an absence of forty-four days (March, 1874), his surgeon divided the prepuce superiorly from border to base, the incision terminating at the gangrenous opening before mentioned. This gave great relief to the dysuria, and somewhat mitigated the pains in the thighs, etc., which were described as of a heavy, aching character, as from cramp, or excessive muscular tension. An aggravation of his trouble now occurred from the performance of duties which devolved upon him (as the presiding officer of a State medical convention), which induced him to submit to further surgical procedure. A portion of the swollen prepuce was removed; as much as was thought essential to completely relieve constriction, and to get at the bottom of the sinuses, for treatment. The cut surfaces of the prepuce were left open and healed kindly, with the exception of a small opening under the base of the glans, through which, finally, a communication was established with the urethral canal. This fistula was followed in the course of three or four days by a second, from within outward, and alongside the first, on the opposite side of the median line. After the second opening was established there was some relief to the passage of urine, but none to the aching pain of the extremities. The supposed carbuncular troubles on the scrotum and on the penis were each preceded by a distinct circumscribed induration, involving the thickness of the integument and not movable over the cellular tissue. Similar indurations, smaller in size, now appeared on the under surface of the penis, to the number of three, which each resulted in a urethral fistula, through which urine passed at every urination. These were about half an inch from the junction of the penis with the anterior border of the scrotum, and just to the right of the median line. Nothing further was done in the way of surgical interference, and no improvement occurred either in the urinary difficulty or the pains in the inferior extremities. Consultations, with more than a dozen surgeons to whose notice the case was brought, failed to afford the patient any relief. Not one had ever seen any thing like it. The general opinion was opposed to the idea of malignant trouble. The difficulty was considered of furuncular origin and to have arisen from poverty of the blood, dependent upon overwork. No treatment was advised, except that addressed to the general building up of the system. One surgeon advised amputation of the penis. The patient then decided to come to New York for relief, arriving on September 17, 1874, with letters to the principal surgeons of this city. He was seen by several. The opinions which an examination of his condition elicited, were in perfect accord with those already mentioned, viz., a disease "resulting from poverty of the blood from malaria, etc., and excessive use of opium"—causing the neuralgic pains, etc., from which the patient continued to suffer night and day, and so severely and constantly that a complete demoralization of the patient was imminent.

Priapism added a new element of distress, and with only the hope of obtaining a possible relief from this new complication, by means of the *cold-water coil* (of my own contrivance)[1], he was referred to me. An examination of the penis revealed the condition represented in the woodcut No. 1 on the frontispiece of this JOURNAL, executed from a drawing which I made at the time of the patient's first visit. I found the glans exceedingly sensitive to touch. The patient was passing his water chiefly through a fistulous opening at the base of the glans, inferiorly. The meatus urinarius was contracted to 13 f. Bulbous sound 13 f. was passed with much pain, hugged closely for one inch until it emerged from the first fistulous opening. This opening was also terribly sensitive; an attempt to examine it causing a profuse perspiration and much complaint. This opening admitted with difficulty No. 26 f. It then passed down without force 2¼ inches, where it was arrested by a stricture. Bulb No. 23 f. passed through, and was felt to be free at 2¾ inches. My own view of the case, based upon the experience acquired from previously observed cases, where exactly the same character and locality of pain had been found to be dependent upon urethral contractions, determined me to advise complete division of all urethral contractions as the best and only means of relief. The doctor after becoming fully cognizant of my views and reasons for operation, consented to submit himself wholly to whatever was deemed necessary to carry out the proposed operative procedure. The operation was set down for the following day, October 27, 1874. By my invitation, Prof. Thos. M. Markoe and Dr. Geo. A. Peters were present. The patient was put under the influence of chloroform (which he had often taken for relief of his pains, and with perfect impunity) by my assistant, Dr. Fox; and I proceeded first to divide, fully and freely, the contraction from the meatus urinarius to the first fistulous opening, which was of calibre 13 f. This was done so that 31 f. bulbous sound could be easily passed. I then divided the orifice of the main fistulous opening, so that the same bulb could readily enter. An examination of the deeper urethra was now instituted, and it was found that a large-sized probe passed down for one and a half inch, and thence out of the urethra to the right until it entered easily the urinary abscess situated at the root of the penis (marked in the cut), and which had existed for several months. (The patient complained that he always felt pain on urinating, in this locality.) The stricture at 2¼ inches was then defined by 23; and by aid of my small urethrotome this stricture was dilated to 30 f., and divided; 31 solid-steel sound was then passed from the meatus, through the entire urethra, and into the bladder without force. When the patient came out from the influence of the anæsthetic, he expressed himself as feeling better than for a long time. Bleeding was slight. The first attempt at urinating was painful, but urine was passed more freely than for years. Without opium or any other narcotic, he passed a comfortable night, sleeping for nine hours. On the following morning he stated that he had entire freedom from all the pains so long endured, and that for a similar night's rest he "would be willing to submit to a similar operation every night of his life." There was no return of his pains in the thighs, legs, etc. After two days, I attempted to pass an instrument for the purpose of keeping open the divided strictures; but the pain was so great that I desisted, believing it better to wait until the sensitiveness had subsided, even at the risk of speedy contraction of the deeper stricture. In a week, the patient was out. Went to Brooklyn on a visit. A pair of tight pantaloons, and an evening spent in playing billiards, caused some return of his nervous disturbance in the inferior extremities; but applications of warm cloths to the penis soon relieved him. I then proposed to examine the condition of the urethra, and found, as I had expected, a recontraction of the deeper stricture. On Sunday, November 8th, Drs. Peters, McBirney and Fox present, I again divided the deep stricture under chloroform. From that time to the patient's departure to his home, December 1st, he had no further trouble. His recovery seemed to have been complete. He left with the promise to communicate with me at once if he had any return of his trouble. I have not since heard from him. Among the other results of the operation, the urinary abscess on the right side of the root of the penis disappeared entirely, and this within ten days after the first operation.

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[1] A description and woodcut of this apparatus will be found in the *New York Medical Record* of January 9, 1875.

My own view of the origin of the trouble in this case is that, from some unrecognized cause, a follicle in the scrotal portion of the urethra became the subject of inflammatory action; that this follicular inflammation finally resulted in ulceration and the formation of a fine and somewhat tortuous sinus, extending, from the follicular point of exit in the urethra, down to the bottom of the scrotum; that the "dumb ague," which the patient complained of as occurring at about this time, was a *urethral* fever, and *marked the progress of the sinus*, which, after reaching the most depending portion of the scrotum, remained in great degree quiescent for five and a half years; and that the depressed condition of health, resulting from general causes, finally brought about an active inflammation, terminating in a primary abscess at the bottom of the sinus; that when the urinary abscess, occurring at the bottom of the scrotum, supervened, the cellulitis accompanying it closed the sinuous tract for an inch, and, after the first abscess had healed, a second cellulitis occurred at the point to which the sinus had been closed by the previous inflammation, and the second abscess resulted. The inflammation attendant upon this, closing the sinus for another inch or so, after a brief period the third abscess occurred. In the same time and in the same manner a fourth; finally the integument of the body of the penis became involved in the ulcerative process, proceeding to the anterior portion of the organ. Inflammatory paraphymosis, and the consequent tension of all the tissues at this point, naturally gave rise to the urethral fistulæ which appeared in this vicinity.

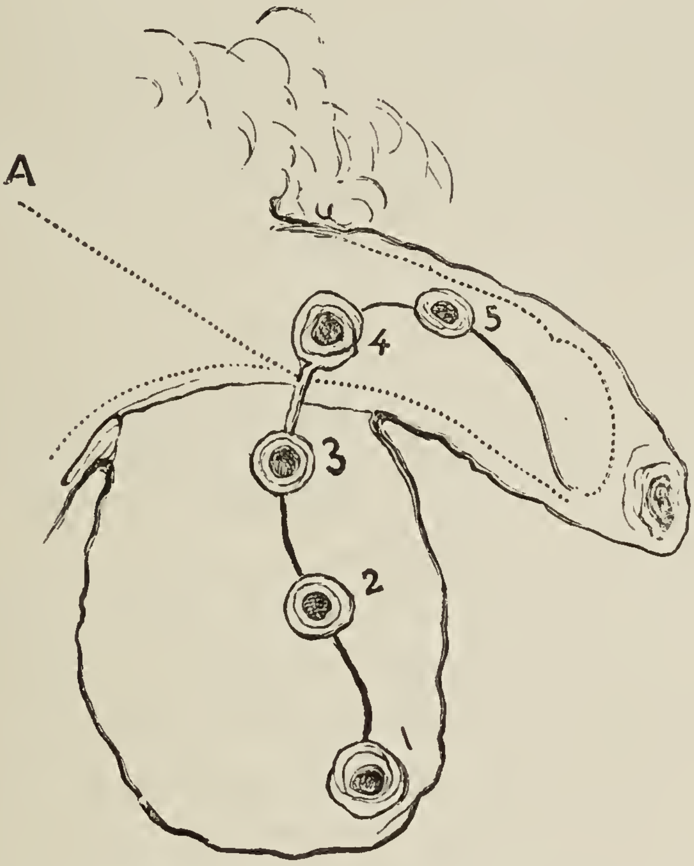

Diagram showing the Locality of the Deep Stricture, Course of the Urinary Sinus, and Locality of the Abscesses.

A, Deep stricture. 1, First abscess, connected with 2, 3, 4, and 5, the succeeding abscesses, by the sinus, which commenced at *A*, the point of stricture, and extended down to *I*, the bottom of the scrotum.

The dependence of urinary sinus upon antecedent inflammation and ulceration of urethral follicles is claimed by Dittel (Pitha and Billroth's "Handbuch der allgemeinen und speciellen Chirurgie," Band iii., Abtheilung ii., Lief. vi., p. 191), and several cases are reported by him, illustrating, in their course, and also in *post-mortem* examination, the follicular origin of small urinary sinuses. Two such cases were reported by me under the title of "Urethral Follicular Sinuses" in a paper on "Chronic Urethral Discharges," which appeared in the New York Medical Journal of June, 1870.

The reflex troubles in this case appear to me to be in exact accordance with those often found associated with urethral stricture, especially at or near the meatus urinarius. They are dependent, possibly upon implication and irritation of nerve-fibres in the cicatricial tissue, or upon long-continued interference with the discharge of urine, in persons debilitated by influences calculated to depress the sympathetic nervous system.

NOTE.—In a paper read before the New York Academy of Medicine in February, 1874 (not yet published), entitled "Reflex Irritation of the Genito-urinary Tract resulting upon Urethral Contractions, congenital or acquired," nineteen cases are reported, and the very scanty literature of the subject is quoted. Some space is also devoted to a consideration of the various ways in which such reflex irritations are produced. A tolerably full abstract of this paper may be found in the *Charleston Medical Journal and Review*, July, 1874.

III.—*Clinics on Diseases of Women, College of Physicians and Surgeons, New York.* By Prof. T. GAILLARD THOMAS. Reported by Dr. J. J. Reid.

CASE I. *Uterine Fibroid, Subperitoneal.*—Mrs. Ann G., aged twenty-two years; married; sterile. During the last five months has complained of pain in the back, stitches of pain on either side of the ensiform cartilage, and darting pains in the navel, extending through to the back. Has been four years married. Has no dysmenorrhœa. Is regular every month.

This case shows forcibly the benefit derived from a physical examination of the uterus. The history is obscure, and by no means sufficient to give us a correct idea of the true state of the case. The pains indicate nothing definite.

Physical Examination.—When the finger is carried up the vagina we find a conical cervix, a common cause of sterility, and possibly the cause in the present case.

In the right iliac fossa there is induration. When the other hand is placed over the abdomen, and conjoined manipulation is practised, I find that we have a solid tumor extending up nearly as far as the liver, but separated from it by a small space.

A careful manipulation of this tumor gives the impression that it is solid, no sign of fluctuation or want of resistance being present. When the hand on the abdomen moves the tumor from side to side, it is found that the uterus is connected with it. A careful examination of the tumor inferiorly shows it to extend down as far as the level of the cervix.

I take this to be a fibroid of the uterus, for several reasons. Were it a solid ovarian tumor, it would not only be rare, but it would hardly be expected to be attached to the uterus. It is not connected with the liver, and therefore is not one of the tumors associated with that organ.

Tumors of the kidney are seldom of this size, and, if they are, have no uterine connection.

Uterine tumors, on the other hand, are common not only in the Ethiopian race, but among the Anglo-Saxons. Bayle says that they occur in over thirty per cent. of all the cases. Klob says that forty per cent. have uterine fibroids.

I am not, however, entirely decided in respect to the diagnosis, and shall not be till I have examined the patient under the influence of an anæsthetic.

A most important question, to the patient at least, is, What can we do for her? If it is a fibroid, an operation is out of the question; but this much we can do, and that is, not to allow ourselves to interfere for the cure of her sterility by cutting the neck. As far as regards the treatment of the fibroid, my opinions have changed very decidedly within the last year. I was once strongly in favor of letting such growths alone, but recently Hildebrandt, of Germany, has published nine cases of uterine fibroids treated by means of ergotine. His results are wonderful, to say the least. The histories of the cases resemble each other very much. The first one had a uterine fibroid the size of a child's head; at the end of six months this had disappeared. The second was about the same size; in two months it had disappeared. The third was twice as large as a man's head; in six months it was reduced to the size of a hen's-egg. The remaining cases were very similar.

It is true my experience has not been so satisfactory, and I would be tempted to question the result were Hildebrandt not such an eminent observer. However, I have not yet had time to give the treatment a fair test.

The method of using the ergotine is, to make a solution of it in glycerine and use from five to seven grains at each hypodermic injection.

Carry the needle of the instrument perpendicularly down into the subjacent tissues, and there will not be the same danger of abscesses as if it were passed immediately below the skin. The injections are to be made once in twenty-four hours.

If the patient objects to the use of ergotine in this manner, it may be given either by the mouth or by rectal suppositories.

Case II. *Chronic Ovaritis.*—Mrs. S., aged twenty-four; married four years. For the past five years has been complaining of weakness, pain in the back and sides, dysmenorrhœa, and swelling in the abdomen. The dysmenorrhœa appears about a week before the flow, and gradually diminishes till its appearance. She is not prevented from attending to her usual avocations, though never perfectly well.

Physical Examination.—On examination the uterus is found to be in its proper position. No narrowing of the uterine canal, and, though it is slightly congested, there is no endometritis and but slight leucorrhœa.

When I practised conjoined manipulation, I found a mass which I at first took for the uterus, but found to be an ovary, enlarged and correspondingly painful; indeed, the sensibility is so marked that nothing but an ovary could produce it.

The cause of the dysmenorrhœa is due to ovulation, and in no way connected with the uterus proper. Every time congestion takes place, there will be a return of the pain. Unfortunately, we can do but little for the patient's relief. The bromides may be given to benumb the nervous sensibility, but beyond this but little can be hoped for. I trust the day will come when we may be able to effect a cure, but for the present we have not the means at our command.

Case III. *Ovarian Tumors.*—Mrs. M. H., aged thirty-two; married nine years; sterile. One year ago noticed an enlargement in the lower portion of the abdomen, which has increased in size up the present time. Now it has reached the size of a pregnant uterus at the sixth month. The question that presents itself is, What is it? This becomes of more interest to you in your own office than sitting before her on those benches, and you must consider her as appearing before you individually. Cases similar to this will in all probability present themselves before you have been in practice a year, and their correct diagnosis may have a direct bearing on your after-success.

In considering this class of cases always suspect pregnancy, and, to impress this on your mind, I may call to your recollection a case related by Dr. Gooch, where a young medical man plunged a trocar into an abdominal tumor and evacuated some of the cerebral matter of a fœtus. Not long since I had three cases of suspected ovarian disease sent to me for operation. Two of them turned out to be pregnancies in unmarried females, and the third proved to be a pregnancy in a woman over forty-five years of age.

The case before us gives a history of the tumor developing for a year past, but even this does not settle the matter, for I removed a child once that had been in the uterus three years. It was one of those rare cases called "missed labors." When I removed it it was a mass of adipocere.

The cervix in the present case is small, and that of a non-pregnant uterus, but even that does not decide the matter, for we may have what is known as a ventral pregnancy.

The next thing to consider is abdominal dropsy. When the needle of the hypodermic syringe is introduced, we obtain a fluid unlike the serum of ascites, but resembling the gummy fluid of an ovarian cyst. We therefore infer that it is not abdominal dropsy.

I am superficial in the examination of the present case, as many others will appear before the end of the course. The differential diagnosis of tympanites, adipose tissue, etc., will be entered upon more fully again when we shall have more time to consider them.

A careful examination reveals a defined tumor that fluctuates under the hand. We may have a fibro-cyst of the uterus, and, if so, the diagnosis will rest on the fact that an examination of a specimen of the fluid under the microscope shows the presence of fibre-cells, as has been pointed out by Dr. Atlee, of Philadelphia. Another characteristic of the fluid of a fibro-cyst is, that it coagulates spontaneously on exposure to the air. The patient will be admitted to the Woman's Hospital—and you will hear the issue of the case.

I have another case of abdominal tumor to present to you, which will bring to your recollection the one presented at the last clinic. The history of the case is briefly as follows:

Case IV.—Mrs. C. G., aged thirty-five years; German. Has two children, the youngest one being two years and three months old. Has been complaining since last June, but has been able to be about and attend to her household duties. Before that time was perfectly well. The first symptom she noticed was swelling in the abdomen, which has increased to such an extent as to cause her considerable dyspnœa. She is regular every month, but looks, as you will see, as if she were in the eighth month of utero-gestation. She is very much emaciated.

Physical Examination.—There is a large, hard, abdominal swelling. Four things impress us as most liable to give the result you have before you: pregnancy, dropsy, abdominal or ovarian, and hysterical tympanites from spasms of the abdominal muscles.

As regards pregnancy, the cervix gives no sign of utero-gestation. So confident was I of the fact, that I carried the sound to the fundus, and found the measurement to be normal.

Tympanites.—By percussion, the abdomen gives out over the tumor a dull sound, proving the non-existence of air.

Dropsy.—If we have ascites, the line of dullness is continuous, and varies with the position of the patient. But here we have resonance on either side of the tumor. As I mentioned last time, the fluid differs in either case. Here we have the mucilaginous character of ovarian fluid. Before operating, more light would be required to be thrown on the case, and this can be done most satisfactorily by means of the aspirator. If by this means two or three quarts of fluid are removed, we will have remaining a flaccid bag which can be detected in the abdomen. If, on the other hand, it is abdominal dropsy, it is obvious that this cannot be found. One other sign of ascites is found by pressing down the hand on the abdomen. If the fluid is unconfined in the cavity of the abdomen, the hands will displace the fluid, but if it is in a tense sac we get the resistance to be expected under the circumstances.

Case V. *Procidentia Uteri in a Virgin.*—E. B., seventeen years old; single. Has been sick three months, complaining of metrorrhagia, with occasional back-ache.

There is very little here to warrant a vaginal examination in an unmarried girl, but when she is examined the uterus is found projecting outside the vulva. This is nearly incredible, not only in a patient of seventeen and unmarried, but coming on without any history of strain or injury. When the probe is passed into the uterus it is found to measure three inches, and two and a half inches project without the vulva.

A case appeared last session at the clinic, of an unmarried girl with procidentia. She gave a history, however, of its coming on after lifting a heavy weight.

The treatment to be pursued will be first to replace the organ and keep it in position by means of a pessary, and I think the form most serviceable in the present case would be Meigs's ring. Hot astringent injections should be used morning and evening, if not oftener.

We shall see her again in a month, and find what improvement has taken place. The most important thing, however, for the benefit of the patient would be a change of occupation —she is now a servant—to some sedentary pursuit.

Malignant Disease of Uterus.—I have two cases of malignant disease to bring before you, showing the disease in the different stages. The first of these is—

Case VI.—Mrs. E., aged forty-one years. Has had one abortion, and two children at full term. Two years ago last July noticed a sudden flow of blood from the vulva, which kept up a short time. Has always been regular in her monthly courses, but suffers from pain, more or less, continually. The pain is of a burning character, and seated in the back and over the abdomen.

About a year ago found that, after having intercourse with her husband, a flow of blood took place.

When a patient gives you the history of hæmorrhage following coition, always examine her, and you will find in a certain number of cases that the cause is malignant disease. I do not say it will always be found, but I am certain that you will find it frequently.

Physical Examination.—The uterus is found in normal position. The cervix, however, is enlarged, and gives to the finger the sensation of irregularity, due to a cauliflower growth. So far the vagina is not involved.

The treatment can only be palliative here, or, in other words, the process may be delayed. The husband must be warned of the danger not only to the patient, but to himself, and when coition stops there will be considerable relief of the pain. By the removal of the cervix, possibly the whole of the disease may be got rid of, and, if so, it may not reappear for an indefinite period of time.

I amputated a cervix for this disease six years ago, and since that time there has been no return, but I am afraid there will be. For the present, astringent injections of alum will prove of service; there is no fetor so far, and, if it does appear, disinfectants must be added.

Case VII.—J. D., aged forty-four years; seven children, the youngest four years old. This woman one year ago complained of precisely the same symptoms as the patient who has just gone out; she does not speak English, and it is not easy to get the facts of the case. She suffers intense pain, and has fetid leucorrhœa, with constant hæmorrhage.

An examination of the case shows the disease to have passed up to the body of the uterus, and at the same time to have involved the vagina. There is really nothing to do for the patient that will be of any service in prolonging her life. We can, however, make her remaining days less miserable than they are now, by giving opium freely to relieve the pain; in fact, by making her an opium-eater. For the hæmorrhage and disagreeable leucorrhœa, an injection composed of alum ʒj, saturated solution of carbolic acid ʒss, water Oj, will prove effective in lessening the fetor. It is important to keep the facts of the case from the patient, and allow her to live still hoping for a cure. It does not hasten the end, and makes her life tolerable. She should be nourished as well as possible, with easily-digested food, but beyond this we are left without a remedy.

CASE VIII. *Rupture of Cervix Uteri.*—The first case that comes before me to-day is Mrs. M., aged twenty-five years; married two years; has one child. Has been ailing since the birth of last child, with but few symptoms, and with none pointing to the uterus, with the exception of a metrorrhagia coming on every two or three weeks. The most important trouble in the mind of the patient is caused by a flow of blood from the rectum.

This is a type of a very large class of cases, and the true cause of the malady is often never made out. I shall not spend much time on it to-day, for I will bring similar cases before you five or six times before the close of the session; indeed, there is another patient outside affected nearly as this one is.

Physical Examination.—The patient is first placed on the back, and we find the perinæum gone, carrying with it the whole of the sphincter ani, with the exception of a few fibres, just sufficient to prevent incontinence of fæces. The cervix is not more than an inch within the vulva, and the sides of it are expanded, owing to laceration.

When the finger is carried up the vagina, behind the cervix, you would think we were dealing with a case of retroversion, but this is not the true explanation. It is in reality the second stage of prolapsus uteri.

The patient is now placed on her side, and, Sims's speculum being introduced, we find that there is a large granular ulcer, which is the cause of the persistent hæmorrhage. When the uterine probe is placed in the cavity the measurement is three inches.

Were we to use the cylindrical speculum, the only thing visible would be a large ulcer, but, when a tenaculum is hooked into either side of the ulcer, and the sides approximated, we have relatively a normal os uteri, proving that what was to all appearance an ulcer is in reality a laceration of the cervix.

I have seen cases of this class diagnosticated to be epithelioma, and have seen the cervix removed under the impression that the case was one of malignant disease.

The treatment consists in repairing the ruptured perinæum and cervix, replacing the uterus, and keeping it in position for a time by means of mechanical support. It is a mistake to consider the perinæum as being made up only of skin and the tissues immediately beneath. There is a perineal body which serves as a support directly and indirectly to all the pelvic viscera, and when the rupture is repaired this must be taken into account.

(In the hospital notes, January—1874—number of this Journal, page 48, the reader will find described the operation on a similar case.)

Case IX. *Fungoid Degeneration of the Mucous Membrane of the Uterus.*—F. S., twenty-four years old; married six years; sterile. For the past four years has been suffering from metrorrhagia, with pain in the side. Suffers, for a few days before her regular menstrual periods, with pain in the inguinal region, which continues during the period.

Physical Examination.—The uterus is normal in every respect, by digital examination. The ovary is enlarged and painful. When the probe was carried into the cavity, bleeding took place, and on removing it a small fungoid mass came away. The chronic-ovaritis may have an influence in keeping up uterine congestion, and developing this villous condition of the mucous membrane, for, when we have a history similar to the one given by this patient, we are very liable to have just such a state of disease.

The treatment of the case will be to apply a curette, made from a loop of copper wire, to the cavity of the uterus, and thus remove the whole of the growths. If by this means the patient is cured, it will prove the correctness of the diagnosis.

IV.—*Cases illustrating the Value of Quinine in accelerating Parturition.* By O. B. Stafford, M. D., New Boston, Ill.

The attention of the profession having recently been directed to the use of quinine in obstetric cases, I have thought it well to place on record the results of my experience in this matter:

Case I.—June 12, 1872, Mrs. G., aged twenty-three years, second child. Saw her about 2 p. m., in charge of midwife;

had been in labor for twenty-four hours, but, for two hours previous to my seeing her, had been without any pain whatever, and absence of pain had caused friends to seek medical aid. Found a well-dilated bag of waters presenting properly, but every thing pertaining to active labor positively quiet. Patient exhibiting considerable nervous excitement, result of strong mental emotion.

I gave her eight grains of quinia sulph. at one dose, and in twenty minutes strong expulsive labor-pains set in, and in a short time, in one hour at least, from the time of taking quinine, labor was terminated. Patient and child did well; convalescence was early and good.

Case II. *February* 28, 1873.—Mrs. T., aged thirty years, third pregnancy. Saw her about 9 A. M.; found patient very pale, suffering from general nervous prostration, badly nourished, surroundings miserable; was very despondent, and continued to express fears of dying quickly. Had been in labor about eighteen hours, but, aside from presentation of bag of waters and dilatation of os uteri to the size of a shilling, no progress had been made. After waiting two hours, and finding that manipulation about the os uteri failed to produce any pain or uterine contraction whatever, and being without ergot, I ventured to give her about seven grains of quinine. At the time of giving quinine, skin was tolerably cool and pulse much softer than would be expected of one in her physical condition.

In thirty minutes patient complained of strong bearing-down pain. Uterine walls hardened, dilatation was completed, and in one hour and a half delivery was effected, without instrumental interference. Child very poor and feeble, requiring close attention for some time to keep it alive; but it is at present a strong, hearty child; duration of third stage, fifteen minutes.

Case III. *March* 7, 1847.—Miss M., unmarried, aged thirty-five years, first pregnancy; saw her at 8 P. M.; had been in labor twenty-four hours, under her mother's care, who, becoming alarmed at inefficiency of pain, sought medical assistance. Found patient non-communicative, denying pregnancy, and referring all pain to thoracic cavity. Pain recurring about every half-hour, and lasting about one-half minute.

Gave a *placebo*, and awaited results. At 12 M. no progress. Greatly against patient's will, made an examination and found os uteri dilated a little, bag of waters presenting, and presentation of child correct. Having no ergot, and being eight miles from town, roads miserably bad, I again resorted to quinine; gave her ten grains in two doses, twenty minutes apart. In less than half an hour after taking last dose, strong expulsive labor-pains set in, and, notwithstanding a very considerable narrowing of pelvic outlet, delivery was successfully accomplished in two and a half hours after administration of second dose of quinine.

One very remarkable feature presents itself in the administration of quinine in obstetrical cases. It does not produce that *spasmodic* uterine contraction which, in my hands at least, so frequently follows the giving of ergot; also an unusual freedom from flooding; the entire placental mass is dislodged with but little difficulty, the uterus contracts firmly, presenting that hard, woody feeling which is so pleasing to the careful obstetrician.

Case IV. *May* 23, 1872.—Patient aged twenty-seven years; abortion; second month of utero-gestation. When I saw patient, found her flooding terribly; lips and face bloodless, pulse scarcely discernible; bed saturated with blood; sighing respiration, etc.

Tamponed vaginal cavity and gave six grains of quinine at once; applied cloths wet in cold water over the abdomen, and gave whiskey-punch freely, together with warm, strong coffee. Flooding ceased, patient revived, and circulation became better. In this case ergot was not used at all. In less than two hours patient complained of strong uterine pain, and, upon removing tampon at the end of four hours, a large coagulum, containing what appeared to be a small placenta, was found adherent. Patient became convalescent without any further hæmorrhage.

Case V. *August* 16, 1874.—Mrs. B., aged twenty-two, aborted at third month, result of a fall; flooding continued for several days, followed by hæmorrhage, which lasted some four weeks, no medical advice being sought until patient was prostrated almost beyond help. Gave fl. ex. ergot, gtt.

x, with quinine sulph., grs. iv, every three hours, which, in connection with brandy-punch and plenty of concentrated nourishment, was the only medication used. Hæmorrhage ceased entirely in twelve hours, and patient rallied in good time.

In all the above cases the mothers convalesced well. General nervous prostration did not ensue to so great an extent as we frequently observe. Lochial discharges were normal, and, to my mind, there was a marked freeness from malarial difficulties, puerperal fever, chills, etc., which are so prevalent in the Mississippi Valley.

V.—*Chronic Gastralgia cured by the Nitrite of Amyl.* By W. H. Forrest, M. D., Florence, Italy.

Emilio S., aged thirty-three years; married; cook; a native of Italy. Previous history unimportant up to February, 1871, when his present illness began. Patient was exposed during several hours to excessively bad weather, being under the peculiar excitement incident to the Italian Carnival. In the evening he lost his voice entirely, and several hours elapsed before he regained it. A few hours after the inception of this symptom, he was seized with an exquisite pain in the epigastrium, it being limited to that region. It is impossible to attribute the pain to any of the ingesta of the day, as he declared he had not departed from his usual diet, and his subsequent history confirmed the statement. This attack, as well as the subsequent ones, was not attended with vomiting of any kind. The only further symptom was complete suspension of the functions of the stomach. Food of any kind would remain in the stomach for hours without increasing the distress, and without undergoing any of the alterations incident to digestion. This latter fact was found to be true by the patient, who frequently caused emesis in the vain hope of relieving the pain. Absorption by the organ was entirely checked, as was found by the non-action of medicines of all kinds. Constipation sometimes obstinate, then again absent. The duration of the spasm varied, lasting from three hours to as many days.

Patient has had, from date of inception of the malady, through the intervening forty-two months, repeated recurrences of these attacks, with but slight variation in character from the first. Has always been utterly unable to assign any cause for the attacks, which came on at irregular intervals of time, greater or lesser; some three days, others a month in extent. The approach of cold weather was every year the sure prognostic of an aggravation of the spasm. The diagnosis of neuralgic spasm of the stomach was made by the Italian Faculty, and large quantities of various medicines were given, in which were included about all the routine antispasmodics, anæsthetics, and narcotics of the Pharmacopœia. They all proved unavailing, owing in some instances to the fact that absorption did not follow their administration; in others, that the effect was but temporary. Hypodermic injections of a salt of morphia were at last resorted to, and proved effectual, affording no immunity, however, from recurrence of the pain. In some instances, as much as ʒ iij of a solution, about equivalent to Magendie's, was required to give relief. I will not stop to enumerate the therapeutic agents of the Italian physicians, except to refer to one item. The poor fellow was subjected to the ordeal of taking, for sixteen consecutive mornings, a dose of castor-oil ℥ ss and olive-oil ℥ j.

I first saw patient early in September, 1874, and was unable to discover any organic disease of heart, lungs, or spine. No evidence of a tumor of any kind; and in fact, except in noting the presence of all the symptoms of chronic opium-poisoning, the examination proved negative. Shortly after, according to instructions, patient, while suffering from a spasm, came to see me, and again I was unable to discover any thing to modify the diagnosis of neuralgia.

I first tried the nitrite of amyl by inhalation, and, obtaining a slightly relaxing effect only, gave the drug by the mouth, in a dose of ♏ ijss. The first method, although exhibiting most of the characteristic effects of the medicine, failed to stop the pain, which end, however, was obtained by the second, in precisely eight minutes. The patient walked off, declaring that he felt peculiarly strong. The spasm, thus cut short, remained absent for about twenty-four hours, but then returned in full vigor. The experiment was again resorted to in like manner as at first, the dose by the mouth being increased to ♏ iijss. The pain ceased as before, but has never since returned to an extent sufficient to cause any thing but a slight annoyance. In order to relieve the sleeplessness of the opium-habit, chloral and bromide of potash have been given with good effect.

I made one attempt to remedy the anæmia from which he suffered, by a mild chalybeate, but desisted, and left his re-establishment to nature.

Patient has made rapid progress, and at the time of this report is well able to do light work.

Notes of Hospital Practice.

SMALL-POX HOSPITAL, BLACKWELL'S ISLAND, N. Y.

The epidemic of small-pox which prevails this winter in this city closely corresponds to that of the winter of 1871–'72, not only in the number of the cases, but also in the type of the disease. There were then at one time in the hospital between 200 and 300 cases, and the number now is 150, with an increasing tendency. One of the strongest arguments in favor of the prophylactic power of vaccination is to be found in the results obtained by the Board of Health, during the last few years. During 1871–'72, the city was thoroughly vaccinated, so much so, indeed, that it was nearly impossible to find a tenement-house which members of the vaccinating corps had not visited on several occasions. As a result of this immense and thorough work, there was a very small amount of variola here, while in Boston and other cities it was very prevalent. The Board of Health omitted to continue this thorough vaccination during the two following winters, and, as a result, there is a large number of cases of small-pox; but at last a bureau of vaccination has been established, which will probably be able to limit the cases to a very small number.

The Small-pox Hospital is now in charge of the Board of

Health, and has been placed under the care of Dr. J. J. Delaney, formerly of Charity Hospital. Inasmuch as many see but little of variola, a description of the class of hospital cases may prove interesting, as an aid to diagnosis. They are divided into the discrete, confluent, and hæmorrhagic. The symptoms of discrete and confluent are fully described in the textbooks, but the hæmorrhagic cases, as seen here, are imperfectly described, if at all referred to. They are, in fact, composed of two classes: first, that in which, from a purpuric state of the system, hæmorrhage takes place into the fully-formed vesicle; and, second, that in which there is a marked hyperæmic state of the papule from the outset. This latter class is nearly always confluent, and usually fatal, inasmuch as no case can be found that recovered. So true is this fact, that the hospital orderly readily recognizes them as fatal, as soon as they enter the ward. It is difficult to describe the appearance of these papules more definitely than to say that they are broad but slightly elevated, and nearly identical with the elevation of the skin found in the cases of malignant measles which occurred here last summer. These papules do not fill as the ordinary ones do, but always remain low and diffuse. The skin between the papules has a diffuse redness, showing the existence of marked hyperæmia over all. The symptoms of this group are also peculiar; many of the cases begin with little or no fever, and, up to the time of the appearance of the eruption, the constitutional symptoms are essentially mild. When the eruption has appeared, it may continue for a day or two, as in the ordinary cases of small-pox, or, what is more common, die in from twenty-four to forty-eight hours.

Delirium, in any case of small-pox, after the eruption has appeared, coming on at night, is not a serious symptom, but if it lasts for twenty-four or forty-eight hours, and is violent, the chances of recovery are small. Convulsions are not common, and we know of but one case where they appeared and caused death on the fourth day. The eruption in small-pox usually appears on the third or fourth day of the disease, though occasionally it may appear earlier, and the umbilication of the vesicles, though quite common, is by no means pathognomonic. It quite often happens that the eruption appears on the conjunctiva, and, when it does, it is on the palpebral surface. It is to be distinguished from a keratitis, which is very common. Frequently the eruption appears in the mouth, and, when it does, it adds greatly to the discomfort of the patient, by rendering mastication painful, and precluding any but a liquid diet. Niemeyer mentions the adynamic cases, where hæmorrhage occurs; and the cases that come under observation in the hospital not unfrequently have this complication, the hæmorrhage taking place from all the mucous surfaces—mouth, nose, bronchi, rectum, and vagina or uterus. The fever of suppuration takes place about the ninth or tenth day; and in fatal cases, when death does not happen within the first two or three days, the patient usually succumbs about the twelfth day of the eruption, from asthenia. The mortality has an average of about twenty per cent., including children and adults, but with the children alone the mortality is greater.

By analyzing the varieties closely, we find that healthy adults with the discrete eruption usually recover, even if, from a purpuric state of the system, blood has been effused into the vesicles, as was previously referred to. When the disease is confluent or semi-confluent, there is an increase of the danger, and, in the malignant class referred to early in the report, the prognosis is uniformly bad.

One of the most interesting facts brought out by the hospital cases is, the value of vaccination as a preventive.

The deductions arrived at are—first, that the vaccination of childhood is of no value, unless repeated at intervals of three years. This is proved by the fact that all, or nearly all, of the cases have good pock-marks; though, at the same time, it is true that the cicatrix does not prove the validity of the vaccination.

Again, the fact of having had the disease does not preclude the possibility of again taking it, and should not preclude the necessity of revaccination. It not unfrequently happens that a patient enters who is strongly pitted; and we recollect a patient, in the Jersey City Charity Hospital, who had the disease three times.

The strongest argument in favor of frequent revaccination is that, of all the cases under observation, not one can be found who has been successfully revaccinated within four years; and there are only a few even who were vaccinated four years ago. But, while this we consider a rule, it is not without its exception, for we recollect the case of a child who was vaccinated successfully at a dispensary on the east side, and in a year from that time took small-pox.

Another interesting fact occasionally noticed in hospital is, the two diseases *variola* and *vaccina* running their course together in the same patient, each entirely uninfluenced by the presence of the other.

An occasional cause of death is septicæmia, proved by the temperature and chills. It appears in those cases that otherwise would apparently get well.

In children, croup often appears during the stage of desiccation. During the month of December, three died from this cause.

Treatment.—The treatment of the disease is mainly expectant or symptomatic. When the temperature is high, sponging is employed with marked benefit; and for the insomnia, which is nearly always present, 30 gr. of hydrate of chloral, with 40 gr. of the bromide of potassium. Nearly all of the patients suffer from imperfect nutrition, and alimentation is, of necessity, important; but, were they of a different class, it would be equally necessary to force alimentation, in order to prepare for the drain of the secondary fever. When the secondary fever appears, stimulation is the main reliance to carry the patient through—from half an ounce to an ounce of whiskey being administered every two hours. The treatment of the eruption on the face is the application of a 40-gr. solution of nitrate of silver.

NEW YORK EYE AND EAR INFIRMARY.

Albuminuria recognized by the Ophthalmoscope.—The patient, a woman of forty years, came to the Infirmary complaining of failing sight, being able with both eyes to count fingers only at ten feet. During the past summer she was confined to her room by indefinite symptoms, which her physician pronounced to be due to neuralgia. When examined by the ophthalmoscope there was detected a *retinitis albuminurica* in both eyes, which might be considered typical of Bright's disease. The urine was then examined for albumen, and none was discovered by the usual tests, but when placed under the microscope hyaline casts were discovered.

Near-sightedness simulated by Spasm of Accommodation.—An interesting case of simulated myopia recently came under the observation of Dr. C. Allan, at the Infirmary. The patient was a girl of seventeen, and an energetic student. During the last three years noticed that she was unable to recognize people across the street, and found with the aid of concave glasses that she was enabled to see distinctly. When she was seen at the Infirmary it was suspected that, although concave glasses improved the sight, there was a question whether or not there was myopia. She was then examined by the ophthalmoscope, and it was found that instead of myopia there was an hypermetropia of about $\frac{1}{20}$. This strange apparent contradiction could only be produced by spasm of the ciliary muscle, influencing the power of accommodation of the eye, and, in order to prove it, atropine was used to paralyze the accommodation, when it was found, on testing her vision, that instead of requiring concave glasses she needed convex glasses of $\frac{1}{20}$ to render her vision normal.

This spasm of accommodation is not frequent, but when found is usually the result of too continuous use of the eyes, and particularly of the bad habit of holding the books too close in reading.

Proceedings of Societies.

NEW YORK SOCIETY OF NEUROLOGY AND ELECTROLOGY.

Annual Meeting, December 21, 1874.

Dr. Meredith Clymer, President, in the chair.

Dr. Allan McLane Hamilton exhibited a new form of dynamometer.

Dr. John C. Dalton presented the report of the Special Committee upon "Experimental Researches on the Motorial Functions of the Cerebral Convolutions." The details of numerous experiments were given and the brains of the several animals exhibited, the observations of the committee confirming the most important of the results of Hitzig and others who had followed him.

(This report will appear in full, with illustrations, in the next number of this journal.)

On motion, it was resolved that the discussion on the report be made the order at the next special meeting of the Society.

Dr. E. G. Loring, Jr., read a paper on "The Retinal Circulation and the Mechanical Cause of Choked Disk."

The first part of the paper detailed a series of experiments, abundantly illustrated, by which it was shown that the general circulation might be profoundly affected, as by drugs, electricity, or mechanical interference (as ligature of the arteries going to the head), and yet the circulation of the eye be uninfluenced, or but slightly so. By these experiments, therefore, two alternatives are forcibly presented: either that the circulation of the eye is not a reflex of that of the brain, though derived directly from it; or, if it be so, that the influence exerted on the circulation of the brain by certain agents is very much less than hitherto supposed. From the similarity of the physical conditions and arrangement of the circulation of the eye and that of the brain, the question was raised whether there was any pulsation of the cerebral arteries, and reasons were given for inferring that, as there is none in the eye-arteries, there ought by analogy to be very little or none in the cerebral.

The mechanical cause of choked disk was next considered. Graefe's theory of its production by increased intra-cranial pressure, Benedict's hypothesis of a neuro-paralytic origin, and Schwalbe-Schmidt's that it was attributable to the passage of fluid from the arachnoid space between the outer and inner sheaths of the optic nerve, were mentioned and discussed. The conclusion was that Graefe's explanation is insufficient, as is that of Schwalbe-Schmidt, and that that of Benedict is the least assailable, perhaps because the least demonstrable.

In the discussion which followed—

Dr. H. D. Noyes thought we were not yet on solid ground. The theory of extension of fluid from the brain was not substantiated, but such extension had been clearly shown in some autopsies. Most autopsies show fluid at the ocular but not at the cerebral end of the nerve. As the nerve approaches the eye, its circulation is increased by the accession of vessels, and around its entrance into the ball a vascular ring is formed. It is to be remembered that the nerve can only find room for its expansion in a longitudinal direction. Caution is unquestionably necessary in deducing cerebral conditions from examination of the ocular end of the optic nerve.

Dr. R. H. Derby showed drawings made by Dr. Norris, of Philadelphia, illustrating a case referred to in Dr. Loring's paper. He thought that the unreliability of the ophthalmoscope in the diagnosis of cerebral hyperæmia or anæmia was conclusively proved.

Dr. Knapp remarked that we must discriminate between two forms of choked disk: that from neuritis descendens, with inflammatory action in nerve or sheath, and distinct elevation of disk, and that where fluid exists between the layers of the optic sheath. Blood may sometimes ooze from the brain through the intervaginal space into the eye. There is considerable space between the optic nerve and optic foramen. He believed that, with few exceptions, neuro-retinitis pointed to cerebral disease.

Dr. Dalton considered the absence of arterial pulse in the eye as a remarkable fact, and the pulsation in the veins under abnormal conditions as still more incomprehensible. We might, perhaps, explain the non-pulsation of the arteries, but not that of the veins.

Dr. Loring would only suggest as an explanation, that the arterial walls were more elastic and denser than those of the veins.

Dr. J. J. Mason could confirm the want of effect upon the retinal circulation following galvanization of the cervical sympathetic.

The Society, on motion, went into executive session for the election of officers for the ensuing year, and for action upon proposed amendments to the Constitution and By-Laws.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 23, 1874.

Dr. H. Knapp, President.

Aneurism of the Aorta; Laryngotomy.—Dr. E. G. Janeway presented a specimen of aneurism of the transverse portion of the arch of the aorta, with the following history: The patient was a man thirty-three years of age, and an inmate of Bellevue Hospital. For six weeks before he came under observation, had suffered from attacks of dyspnœa and hoarseness, and for several days before admission the attacks were very severe. When Dr. Janeway first saw him, the breathing was of a stridulous character, and an examination with the laryngoscope revealed paralysis of the left vocal cords.

It was suspected that the cause of the dyspnœa was an aneurismal tumor pressing on the recurrent laryngeal nerve, but no further diagnosis was made. Directions were left with the house-physician that, should dyspnœa return, the patient should have laryngotomy performed. During the night severe dyspnœa came on, and Dr. Knox performed the ordinary laryngotomy operation. When the larynx was opened, respiration became normal, but after a few hours dyspnœa again returned, and within twenty hours from the time of the operation the patient died. The *post-mortem* examination revealed an aneurism on the transverse portion of the arch of the aorta, pressing on the trachea immediately above the origin of the two bronchia. As a result of this pressure a small ovoidal tumor formed, which projected into the air-passage about half an inch. The pneumogastric and recurrent nerves passed over the top of the sac, and the paralysis of the vocal cords on the left side was accounted for in this way. The pressure of the tumor on the trachea explained how it was that such small relief was obtained from laryngotomy.

Dr. Janeway said that he had seen the operation several times in thoracic aneurism, but had never known the patient to live more than a week, the usual cause of death being pneumonia or pressure on the trachea. He considered it advisable, however, as the prolongation of life for a few hours, in some cases, may be of great importance.

Leucocythæmia.—Dr. Janeway presented also a specimen of blood from a woman suffering from leucocythæmia. She was thirty-three years of age, and had been suffering from this disease for about two years. The spleen measured ten inches in the longitudinal and twelve in the transverse diameter. Some of the blood was placed on a slide and viewed with the microscope. The globules were from $\frac{1}{2000}$ to $\frac{1}{3000}$ of an inch in diameter, and were in the proportion of one of the red to four or five of the white.

Sarcoma of the Iris; Removal without Injury to the Sight.—Dr. Knapp presented a specimen of sarcoma of the iris, which he had removed from a man under the following circumstances: The patient was thirty-three years of age, and had for some time a sarcomatous growth connected with the iris. There was no change noticed in the optic nerve. The operation consisted in passing a lance-shaped knife in front of the iris, dilating the opening thus made, and allowing the iris, with the attached tumor, to prolapse. The tumor was then removed. The patient improved in a short time, and it was found that when he had recovered from the operation there was no loss of sight.

Stated Meeting, January 13, 1875.

DR. H. KNAPP, President.

Abscess of the Brain, in a Child, without Otorrhœa.—Dr. J. LEWIS SMITH read the following interesting case that came under his observation in the New York Foundling Asylum:

Maggie, aged two years and eight months, was admitted into the asylum from her nurse outside, about the first of September, 1874. She seemed to be in good health, and was plump and well-developed. Her nurse stated that, while she was under her care before admission, there had been no serious sickness. After her admission there was no sign of disease detected till December 6th. On the evening of December 5th she ate her supper as usual, and was placed in her crib. At 3 A. M., December 6th, the Sister in charge found her in severe general eclampsia, and, in addition to the ordinary local treatment, gave her five-grain doses of bromide of potassium, at intervals, till six or seven doses had been administered. For all this, the spasmodic movements continued, with more or less violence, till half-past one o'clock in the afternoon, and even at that time the muscles of the neck were not quiet. On visiting the asylum at six o'clock in the evening, she was found lying quiet, rather stupid, but easily aroused, when she evidently saw well, and was entirely conscious. The pupils responded to light, and the direction of the eyes was normal. The pulse was 104; no cough; respiration normal; temperature, as ascertained by the thermometer in the axilla, also normal. There was no apparent paralysis of the muscles of the face, but the right arm and leg were paralyzed, though not completely so. The great-toe became flexed on tickling the sole of the foot, but the foot itself had little or no motion, and, on attempting to flex the paralyzed leg, there was some muscular rigidity. It was noticed, however, that the patient produced slight movement of the thigh on the abdomen. The muscles of the right upper extremity were more flaccid than those of the leg, and below the elbow motion seemed to be totally lost.

During the two or three days succeeding the convulsions, sensation in the right limbs was not entirely lost, though much enfeebled. Subsequently, paralysis in the right limbs, both of the nerves of sensation and motion, was nearly or quite total, and continued so till death. Nevertheless, till within a short time of death, tickling the sole of the foot caused some movement of the great-toe. On the left side sensation and motion were normal. The record from the attack to death ran as follows:

December 9*th.*—To-day vomited for the first time; nothing abnormal about the eyes; no retraction of head or rigidity of the muscles of neck or spine; pulse 96, temperature normal; lies quiet, and with eyes shut; is stupid, but not particularly fretful when aroused; the bowels move regularly.

11*th.*—Continues to vomit at intervals; pulse 68.

16*th.*—Pulse 80, temperature 100°; vomited once yesterday, not at all to-day; lies in a constant doze. Takes bromide of potassium, four grains, three times a day.

18*th.*—Moans at times, as if in pain; pulse 180, temperature 100°; takes four grains of the bromide every four hours.

19*th.*—Pulse 180, temperature 103°; there is convergent strabismus, and the eyes have a wild, almost insane look; there is no loss of vision, however, for, when a percussion-hammer is presented to her, she grasps it hurriedly; paralysis of the nerves of motion and sensation in the right extremities nearly complete, yet slight motion still produced in the great-toe by tickling; the vomiting has ceased; tongue covered with a thick fur; movement of the bowels pretty regular; has a slight cough, such as is common in cerebral disease.

22*d.*—Lies quietly on her side in a continual slumber, with eyes constantly shut; pulse 118; temperature 101½°; the bowels still move pretty regularly; when the pupils are exposed to the light they oscillate, but are more dilated than in health; passes urine freely; has at intervals circumscribed flushing of the features; a rash appeared over abdomen and chest, possibly due to the large quantity of bromide administered.

24*th.*—Pulse intermittent; pupils dilated.

25*th.*—Died in profound coma to-day, having lived nineteen days from the commencement of the malady.

Autopsy.—On removing the calvarium, the membranes of the brain were found to be more vascular than normal, but there was no increase of the cerebro-spinal fluid. The surface of the hemisphere was normal, with the exception of a yellow spot, slightly elevated, on the vertex at left side. The base of the brain showed no sign of meningitis. The lateral ventricle on the right side contained from two to three drachms of purulent matter.

Dr. Smith gave the brain to Dr. Heitzman for more thorough examination. Dr. Heitzman reported as follows: The left hemisphere was soft, and had, near the vertex, an elevated yellow spot, about an inch and a half in diameter. On making a section, there was found an abscess immediately below it, about the size of a child's fist, and divided into two cavities by a septum. An examination of the pus by the microscope showed the presence of micrococci and bacteria, with granular matter.

In answer to a question by Dr. Knapp, Dr. Smith said there was no history of the child having had sore ears; and, moreover, the distance of the abscess from the base of the brain would go to exclude otorrhœa as a cause of the abscess.

Dr. Knapp said that in abscess of the brain there was usually a small interval of healthy tissue between the disease of the ear and the abscess, which was very difficult to explain.

Dr. J. C. Peters said that his experience coincided with Dr. Knapp's, in the rarity of abscess of the brain in children unless otorrhœa was the cause.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 17, 1874.

Dr. Austin Flint, *President.*

Exsection of the Shoulder-Joint.—Dr. Gurdon Buck presented to the Fellows of the Academy a patient upon whom he had practised the operation of exsection of the shoulder-joint. There was no special novelty in the operation, but the resulting new joint was very satisfactory in all its motions, with the single exception that the power of extending the arm from the shoulder was deficient. Dr. Buck stated that, in an operation for ununited fracture of the femur, he found considerable difficulty in getting the chain-saw carried closely round the bone, and it had been suggested to him that a modification of Bellocq's canula for plugging the nares would fulfill the indication. He had acted on this suggestion, and devised an instrument, which he exhibited to the Academy. It consisted of a stout handle, fitted to a curved canula. Inclosed in this canula was a small piece of watch-spring, terminated by a button, as in Bellocq's instrument. When it was desired to use it, the canula was carried partially around the bone, and, pressure being made by the thumb, the spring was driven forward and completely encircled the bone. In the head of the spring there was an eye, through which a ligature was passed, to connect with the end of the saw. This instrument proved of great advantage in applying the saw to the neck of the humerus, and gave much satisfaction to the gentlemen who assisted at the operation, as well as to Dr. Buck himself.

Researches of Currie, and Recent Views on the Use of Water in the Treatment of Disease.—Dr. Flint apologized to the Academy for appearing before them as the reader of a paper. He said that he had made an arrangement, some months ago, for an excellent paper, to be read by a gentleman well known and highly esteemed, but for an unavoidable reason this gentleman was unable to appear, and he was therefore himself forced to act as a substitute.

Dr. Flint said the main object of the paper was, to bring before the notice of the Academy the use of water as an antipyretic agent in the treatment of fevers and inflammations, and more particularly to direct attention to the writings of James Currie. Dr. Currie's first volume was published in the year 1797, and eight years later republished in conjunction with the first appearance of the second volume. The method adopted by Currie was affusion, and he did not so much seek the antipyretic influence as the direct effect of shock on the system. The affusion consisted in dashing four or five gallons of water over the surface of the body, and he was always guided in its use by the temperature indicated by the thermometer. His rule was never to practise it if the temperature was normal, or less than normal, no matter what were the sensations of the patient. In the book, which was very charmingly written, there was a markedly interesting account of the treatment Currie pursued on his two children who were suffering from scarlet fever. He went on to relate the manner of their exposure to the disease, and how one of them anticipated the other in the course of the disease by a few hours. He said, moreover, that he shut himself up with them, and, by the methodic use of the douche, controlled the force of the fever.

Since the time of Currie, this method had fallen greatly into disuse, but latterly had been revived by the Germans. Liebermeister was a strong advocate of the use of water as an antipyretic agent, but gave the credit of its introduction to Currie. He, however, was in favor of the bath at a temperature of 68° Fahr. in any case where the temperature reached 102°, and repeated it every two hours, if necessary. In some cases, two hundred baths had been given in the course of one fever.

Dr. Flint said that he had used the wet pack as far back as 1850, but found that it did not cut short the course of scarlet fever. A modification of the wet pack that he thought well of was, to place a sheet over the patient, and, by the aid of a watering-pot, to sprinkle the surface as often as required to keep down the temperature. A current of air passing over the body was also of service in lowering the preternatural heat. To illustrate the benefit derived from sprinkling, Dr. Flint related a case that occurred in Bellevue Hospital, where the patient, suffering from *sunstroke*, gave the high temperature of 110½° Fahr. In two and a half hours the temperature fell to 104¾° Fahr., and in three and a half hours it was 102°. The only other treatment of the case was cupping of the chest, to relieve cyanosis. The patient recovered.

Stated Meeting, January 7, 1875.

Dr. Austin Flint, President.

After the reading of the minutes, the poll was declared open for the election of officers of the Academy for the ensuing year.

Dr. Anderson, chairman of the Committee of Ways and Means, reported that a building, situated at No. 12 West Thirty-first Street, had been purchased for the use of the Academy. The cost was $42,500, and it was the intention to have it ready for occupancy by the fall. At present it was large enough to accommodate all of the profession resident in the city, and it was hoped that on the rear, now vacant, an addition might be built which would serve as a library.

The Secretary read the following resolutions, sent from the Council of the Academy, but laid over by the President, in accordance with the by-laws:

Resolved, That the Council recommend to the Academy to transfer the entire building fund in the hands of the Trustees to the Committee of Ways and Means for the purpose of purchasing the house and lot situated at No. 12 West Thirty-first Street.

Resolved, That the Council recommend to the Academy to assume the bond and mortgage of ten thousand dollars ($10,000), now a loan on the aforesaid property, and that the Committee of Ways and Means be authorized to complete the purchase.

The diploma of membership was given to Drs. Lynch, Sabine, Strong, and Knapp.

The paper of the evening, on "Nervous Diseases connected with the Medulla Oblongata," was read by Dr. A. McLane Hamilton. The subject was illustrated by means of the magic lantern, and by it the anatomy of the medulla was demonstrated, as well as the appearance of patients suffering from the different diseases. Dr. Hamilton related his experience with ergot in the treatment of epilepsy, especially in the variety known as *petit mal*. The dose of the tincture, or fluid extract, varied from ʒ ss to ʒ jss, three times a day, and, although he had used it for from six to eight months at a time, he had never seen any symptoms of ergotism arising from it. Dr. Peters wished to know whether Dr. Hamilton had any theory of the manner in which ergot answered in the cure of epilepsy. Dr. Hamil-

TON said that the variety in which he had obtained most benefit from it was the diurnal variety, and that was due to congestion of the brain. The effect of the ergot was to lessen this congestion.

The following officers were declared elected for the ensuing year:

President, Dr. S. S. Purple; Vice-President, Dr. Gouverneur M. Smith; Trustee, Dr. Austin Flint, Sr.

Committee on Admissions, Dr. M. Blumenthal.

Committee on Medical Ethics, D. T. M. Cheesman.

Committee on Medical Education, Dr. E. R. Peaslee.

THE NEW YORK MEDICO-LEGAL SOCIETY.

AT a stated meeting of this Society, held November 27, 1874, Clark Bell, Esq., in the chair, the following gentlemen were elected resident members: EDWARD PATTERSON, Esq., FRANCIS FORBES, Esq., AMOS G. HULL, Esq., WILLIAM C. HOLBROOK, Esq.

CLARK BELL, Esq., having been reëlected President of the Society, delivered the annual address.

Dr. JAMES J. O'DEA, of Clifton, S. I., read an interesting paper, entitled "The Special Causes of Suicide—Hereditary Influence, Education, Literature, Domestic Troubles, Intoxication, and Occupation."

At the previous meeting, Dr. R. OGDEN DOREMUS read a paper, entitled "The Duties of the Members of the Medical and Legal Professions, Toxicologists, Pharmaceutists, and County Officers, in Cases of Poisoning, and the Necessity of Proper Legislation on the Subject," and concluded by offering a resolution:

> That a committee of five, consisting of two physicians, two lawyers, and one chemist, be appointed to consider the question as to what additional legislation should be secured in regard to poisoning, and the sale of poisons; also as to the right of a coroner to engage the services of chemists and other experts, when, in his discretion, the interests of the public demand their aid.

In conformity therewith, a committee was appointed at this meeting, consisting of Prof. R. Ogden Doremus, M. D., chairman, Prof. Frank H. Hamilton, M. D., Stephen Rogers, M. D., Clarence A. Seward, Esq., and the Hon. David Dudley Field.

On motion of WILLIAM B. WINTHROP, Esq., the following resolution was passed:

That the New York Medico-Legal Society has learned with sincere regret of the recent death of John H. Anthon, Esq., one of its earliest members and supporters, a lawyer already eminent and of brilliant promise, a scholar of generous culture, and a gentleman of rare integrity and refinement; and that the Society recognizes in his departure a great loss to its membership.

The Treasurer, Dr. T. S. Bahan, then offered the following report of the condition of the Society's Treasury for the fiscal year ending October 22, 1874, which was accepted:

Receipts for the year	$541 00
Expenses " "	496 10
Balance	$44 90
Cash from 1873	129 07
Total balance on hand	$173 97

After a vote of thanks to the President, the Society adjourned.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

DR. HENRY B. SANDS, President.

DR. G. M. BEARD read an extensive paper on "The Relation of the Medical Profession to Popular Delusions, Spiritualism, Mind-Reading, Clairvoyance, and Animal Magnetism." He reviewed the many delusions which have appeared in this country on this subject. He looked upon them as a species of epidemic which from time immemorial have periodically made their appearance.

He described at length the state of trance, and regretted that he was unable to show a patient who could manifest this condition at will.

Dr. JOHN C. PETERS gave his experience with mediums, which was of a very humorous character

On motion of Dr. Peters, it was—

Resolved, That a committee of five be appointed by the chair to consider, and at their convenience report on, the following questions:

1. Is the state or condition of mind known generally as the mesmeric state a reality or a deception?
2. If it is a real physiological state, what are the conditions necessary to its production, and what the phenomena attending it?
3. Is it a state to which one mind can subject another, or does it depend on some conditions voluntarily submitted to by the individual?
4. Is it possible while in this so-called mesmeric trance, or at any other time, or in any other condition known to man in his mundane experience, for one person to divine what is passing in the mind of another, except through the medium of signs?
5. Is there any such faculty known to our race as perceiving by some mysterious second-sight what is transpiring in places far beyond the reach of ordinary human vision, or what is written on a paper when an opaque object lies between it and the person attempting to read?
6. Is there any evidence that the well-known law of gravitation is ever overcome by a force hitherto unrecognized by scientists?

The chair appointed the following gentlemen as the committee: Dr. J. C. Peters, Dr. Fordyce Barker, Dr. Ellsworth Eliot, Dr. Austin Flint, and Dr. A. B. Crosby.

Bibliographical and Literary Notes.

ART. I.—*Inflammation of the Lungs: Tuberculosis and Consumption. Twelve Lectures.* By Dr. LUDWIG BUHL, Professor of Pathological Anatomy and General Pathology in the University of Munich, etc. Translated by permission by MATTHEW D. MANN, M. D., and SAMUEL ST. JOHN, M. D. New York: G. P. Putnam's Sons, 1874.

BY all interested in the pathology and etiology of lung-affections, this classical work will receive a cordial welcome. It embraces the conclusions, based upon twenty years of laborious and untiring research, of one of the most distinguished of German pathologists and clinical observers, Prof. Ludwig Buhl, of the University of Munich. The limits of a review permit only the mention of the more important of these conclusions, with the briefest reference to the anatomical and pathological researches upon which they are based. The present work consists of twelve lectures, written originally in the form of letters to a friend, during the late Franco-Prussian War. Lectures III. and IV. are devoted to a description of the croupous and so-called catarrhal forms of pneumonia, regarding the latter as really "*a capillary bronchitis, a bronchiotitis in which the lung shares in the way of collateral œdema, atalectasis, local emphysema, and engorgement in consequence of the secretion being transferred from the bronchi to the individual alveolar lobuli.*" Prof. Buhl proceeds in Lecture V. to speak of a form of lung-inflammation hitherto undescribed, or confounded with the so-called catarrhal form, which he designates by the title of *desquamative pneumonia.* Three forms, or more properly grades, of this affection are recognized, viz., the *consecutive desquamative pneumonia*, the *genuine desquamative*, and the *true cheesy pneumonia.* The two former present certain general anatomical resemblances, although differing in their clinical history: the cheesy pneumonia is merely the highest grade of the genuine desquamative form, only very rarely existing as a sequence to the consecutive desquamative pneumonia. Of the three degrees of desquamative pneumonia, the consecutive desquamative grade is regarded by Prof. Buhl as the lowest and least significant, appearing as one of the symptoms of severe general processes; in other words, existing only as a secondary inflammation. The absorption of inorganic poisons, as well as of acute exanthematous diseases, of typhoid, of pyæmia, etc., may lay the foundation for it. The chief anatomical characteristics consist in a marked *serous* infiltration of the interstitial tissue, of the stroma containing the vessels, and of the alveolar walls; the appearance in the alveoli themselves of epithelial cells in great abundance, swollen and filled with fine nuclei "partly soluble in acetic acid (proteine molecules), partly insoluble (fat molecules)," *fat corpuscles being rarely if ever discovered by the microscope.* The inflammatory process attacks both lungs simultaneously, or nearly so. This form of inflammation, if the general processes do not prove fatal, usually ternates favorably, resolution taking place through ordinary fatty degeneration.

Genuine desquamative pneumonia, the second grade of the affection, in contradistinction to the consecutive desquamative form, exists only as a primary inflammation, as "*the localized expression of a general disease.*"

Drawing a parallel with kidney-diseases, Prof. Buhl regards the genuine desquamative form as bearing the same relation to the consecutive desquamative that genuine Bright's disease does to the lesions of the kidneys produced by severe constitutional diseases. The distinguishing clinical and anatomical characteristics of genuine desquamative pneumonia are believed by the author to be most marked. In contradistinction to the cause of the so-called catarrhal form, which, as a rule, has its seat in the lower lobes, and exists in a lobular form, this affection attacks by preference the upper lobes of the lung; in case the entire lung is involved, the inflammatory process is always observed to be most developed in the upper lobe, and its progress from above downward is evident; exceptionally both lungs are affected. Minute examination reveals a marked fibro-plastic infiltration of the alveolar walls, connective-tissue proliferation, the alveoli filled with epithelial cells undergoing fatty degeneration, many of them containing *brown or black pigment-granules*; lastly, an abundant cell-development in the sheath of the alveolar capillaries, all of these appearances being wholly foreign to catarrhal pneumonia; *mucous and pus corpuscles are never observed.*

It is claimed that a differential diagnosis of the genuine desquamative pneumonia from the croupous and catarrhal forms can be made in even the earliest stage of the disease, by a microscopic examination of the sputa. The abundance of the alveolar epithelium, its granular character, the cell-pigmentation, are absent in the sputa of the last-mentioned affections. Prof. Buhl believes that genuine desquamative pneumonia may, like true Bright's disease, terminate in *complete recovery.* Where the acute process itself does not prove fatal, irremediable changes (phthisical) are produced by processes varying as to their rapidity in development. Of these we need only mention a chronic fatty degeneration of the inflammatory products, always terminating fatally, and the true cheesy pneumonia. The author's views in regard to the pathology of the latter affection are worthy of most careful study. While admitting the possibility of cheesy degenerations in catarrhal pneumonia, and in exceptional cases in the croupous form, he maintains that they do not merit the name cheesy pneumonias, in the ordinary acceptation of this term, from the fact that in these cases the alveolar *contents alone* become cheesy, *the walls remaining intact.* The cell-development in the sheath of the alveolar capillaries; the fibro-plastic infiltration of the stroma of the vessels and of the alveolar walls; the connective-tissue proliferation, by means of which the walls of the alveoli are deprived of blood, thereby becoming necrosed, and thus offering the necessary conditions for a cheesy degeneration, are wholly wanting in the croupous and catarrhal forms. The conclusions from these premises are summarized by Prof. Buhl in the following sentence: "*Neither from catarrhal nor croupous pneumonia does cheesy pneumonia develop, but solely and alone from necrosing desquamative pneumonia.*" The remainder of the lecture devoted to this subject contains a detailed description of the mode of formation of cavities, as the result of the cheesy process of the course of the affection, and contains much that will be new and interesting to the readers of the work. The three succeeding lectures treat respectively of the different varieties of peri-bronchitis, of the histology and pathogeny of tubercle, and of the etiology of tuberculosis. With reluctance we abstain from even an abstract of the author's very interesting and comprehensive argument in support of the infection theory of tuberculosis. The closing lecture is devoted to the etiology of pulmonary consumption. A proper appreciation of Prof. Buhl's views on this subject demands a very careful study and a thorough understanding of the contents of the preceding lectures. The reader will find much in them that is new; much that is diametrically opposed to views held at present, based upon the teaching of Niemeyer, Rindfleisch, Virchow, and others. Granting the correctness of the author's pathological anatomical premises, there will at least be a disposition to admit the acuteness and apparent soundness of the reasoning leading to his conclusions. As Niemeyer blamed Laennec, so Prof. Buhl accuses Niemeyer of introducing "a very dangerous maxim into pathology," viz., the genetic relation between chronic bronchial catarrh, croupous or catarrhal pneumonias, and phthisis. The author denies this *in toto:* "I entirely agree with Laennec, when he says that consumption never arises from a neglected or protracted catarrh;" again, "croupous and catarrhal pneumonias have nothing to do with consumption." It must be borne in mind that this conclusion is based upon his conception of the true pathology of croupous, catarrhal, and cheesy pneumonias. As an additional support to his previous argument, he refers to Hirsch's histo-geographical pathology, as proving that "catarrhal affections of the lungs are commoner the farther we go from the tropics toward the higher degrees of latitude; while, on the contrary, and in opposition to the generally-received opinion, the most northern portions of the earth show a certain immunity from consumption. In the tropics consumption shows its greatest frequency and runs its course most rapidly." The reader is not to infer that the pathological importance of "taking cold," in respect to the genesis of phthisis, is denied by the author; on the contrary, both changes in temperature and moisture are insisted upon as most important factors in the production of the disease. He would merely suggest a different interpretation from the commonly-received one, of the *modus operandi* of these factors. His reasoning, it is true, partakes more of the nature of a scientific hypothesis than a pathological fact; but does not a similar criticism apply to the views of his opponents?

A brief reference to one other point in this interesting lecture must conclude the present very imperfect synopsis of Prof. Buhl's work. The much-vexed question of the importance of blood-extravasations into the air-passages, in the etiology of phthisis, is considered. Niemeyer's views on this subject are also severely criticised. The genetic relation between blood which has run into the alveoli, blood-extravasations, and cheesy pneumonia, is denied *in toto;* "the anæmia of the alveolar walls and consequent necrosis," the necessary basis of their cheesy degeneration, are wholly wanting.

The thanks of the profession are due to the translators of the present work for rendering generally accessible so important an addition to our knowledge of the etiology and pathology of lung-affections. We offer them our congratulations upon their success in a peculiarly difficult task.

Art. II.—*Transactions of the Medical Association of the State of Alabama, Twenty-seventh Session*, 1874. 8vo, pp. 427.

The volume bearing the above title assumes goodly proportions, comprising many articles of varying interest. The address of the President, Dr. Ketchum, is quite readable; he urges the necessity of hygienic and sanitary teaching.

Of the scientific papers, an address of R. F. Michel, M. D., on "The Epidemic of Yellow Fever in Montgomery, Ala., Summer of 1873," comes first in order. The author thinks that Montgomery does not belong to the "yellow-fever zone," as the epidemic was traceable in its origin to importation. He draws the distinction between it and dengue. He also states that but little medicinal treatment was employed, except to fulfill special indications; hot mustard-baths and laxatives were administered in the commencement, chloral to quiet restlessness, blisters to the epigastrium for the relief of sighing respirations, and stimulants during convalescence.

"The Yellow-Fever Epidemic of 1873," by Prof. Jerome Cochran, M. D., is the subject of a very elaborate article of sixty-two pages. The author accepts, with considerable positiveness, the *contagium virum*, or germ-theory, viz., that the specific poisons of the zymotic diseases exist, as a rule, in the shape of minute solid colloidal particles, not more than $\frac{1}{20000}$ inch in diameter, which view seems to be gaining ground at the present time.[1]

William H. Anderson, M. D., contributes an article on "Cholera in Birmingham, 1873." He says, p. 195: "When ever the wind came from the south and east, the disease seemed to increase in violence, the mortality was greater, and a larger number of cases was the result; but when the wind blew from the north and west, there was a moderation in the bad symptoms, for the time being. Every shower of rain apparently aggravated the disease so much that not only the physicians, but the intelligent class of citizens, looked upon every approaching shower as ominous of increasing danger."

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[1] For full discussion, *vide* Ziemssen's "Cyclopædia of the Practice of Medicine," *Introduction* by Karl Leibermeister. Also *id.*, Art. *Yellow Fever*, by Hænisch, Am. ed., 1874.

J. J. Dement, M. D., contributes an article on "Cholera in Huntsville, 1873." Nearly all the cases occurred in those portions of the city in which existed defective drainage, or other local cause.

Prof. Cochran contributes another article of fifty pages on "The White Blood-Corpuscles, in Health and in Disease." As regards the origin of leucocytes or bioplasts, the author excludes the necessity of the agency of cellular parentage, believing they may be developed out of the so-called blastema—spontaneous generation. He claims the identity of the white blood-corpuscle, the bioplast, and the pus-corpuscle. The ovum is identical with the white corpuscle, also the spermatozoon. The union of the two cells, ovum and spermatozoon, is the origin of the new species, the growth being maintained by "segmentation" and "differential metamorphosis." The white corpuscles of the blood are said to be the lineal descendants of the segmentation-spheres of the ovum, and other corpuscles proceed from these by proliferation. He thinks the red corpuscle is also the offspring of the proliferating segmentation-spheres, but, in after-life, may spring from the white corpuscle. Its function is said not to be nutritive, but respiratory. We had marked several passages in this article for quotation and comment, but want of space prevents their notice. The author seems quite positive in many of his statements.

"State Aid to Hospitals," by P. Bryce, M. D., is the subject of the next article, in which is advocated the creation of hospitals, and a medical college, to be supported by the State.

"Contributions of Physics and Chemistry to Practical Medicine," by T. O. Summers, M. A. S. A., is the title of the next article. The author sets out with the idea that "the greatest obstacle to the progress of thought is the so-called *practical man*." He advocates with zeal the pursuit of science, as eminently fitting the physician for practice, and illustrates it by the numerous inventions of the age. Among the recent inventions noticed, the author refers to the spectroscope, and describes some of its revelations.

E. D. McDaniel, M. D., contributes a good article on "Hæmorrhagic Malarial Fever in Alabama."

F. M. Peterson, M. D., reports a case for a text, and makes some very practical remarks on "Puerperal Ecclampsia, Chloroform, Forceps, and Post-partum Hæmorrhage."

"Anatomy and Diseases of the Cervix Uteri," is the title of the following article, by J. S. Weatherly, M. D. He claims that the cervix is an erectile gland, which, under strong venereal excitement, discharges a fluid from its interior—a similar process to the expulsion of spermatic fluid in the male. He attributes one of the causes of diseases of the cervix to the non-completion of the sexual congress.

"Pneumogastric Nerve—an Interesting Case," by Prof. W. H. Anderson, M. D. The basis of this paper was the case of a lady, six months advanced in pregnancy, who was taken with a severe neuralgic pain in one upper maxilla. It being relieved by morphia, was followed by salivation, nausea, and vomiting, and an intense burning sensation of the fauces and stomach. She thought her "lungs were on fire." Morphia did not relieve these symptoms, although it produced sleep. Attributing the difficulty to disordered nervous action, the author prescribed $\frac{1}{100}$ gr. of atropia, which effected a cure, either by stimulating the sympathetic system, or by diminishing excitement of the chorda tympani, thereby effecting a balance of power.

The next article is a "Report on the Mortuary Statistics of the City of Selma, for a Period of Twenty-nine Months, extending from August 1, 1871, to January 1, 1874," by Benjamin H. Riggs, M. D.

"Pycnanthemum Linifolium" is the title of an article contributed by E. M. Vassar, M. D. The plant belongs to the mint family, is an aromatic bitter tonic, and is recommended for the relief of vomiting and other digestive troubles.

The "Report of the Committee on the Contract System" is a condemnation of that system generally.

The "Report of Committee on a Question of Medical Ethics" is adverse to association with homœopathic or irregular practitioners.

An interesting "Case of Occlusion of the Os Uteri at Term, resulting in Delivery through the Rectum," is reported by Goronwy Owen, M. D. The head of the fœtus, which had become putrid, passed into the rectum by ulceration, through which it was delivered. The patient recovered, and, what seems the more remarkable, the fistulous opening entirely healed, and the cervix uteri, which before delivery was impervious to a probe, now became normal and permitted the passage of a Simpson's sound.

A case of "Aspergillus Nigricans" is reported by W. D. Bizzell, M. D., the author himself being the subject of the affection.

A. L. Garnet, M. D., contributes an article on "Thermal Waters."

J. S. Bankson, M. D., under the title of "Jackson County Diseases," imperfectly reports four cases, with their treatment.

The volume is closed with the "Annual Oration," entitled "Cell-Life the Basis of All Force, both Mental and Physical," by S. D. Seelye, M. D. This lecture was prepared for a mixed audience, and to attempt a review of it would lead us beyond our limits.

Art. III.—*Orthopædia; or, a Practical Treatise on the Aberrations of the Human Form.* By James Knight, M. D., Member of the Medico-Chirurgical Faculty of Maryland, the District Medical Society of Ohio, and of the County Medical Society of New York; Physician and Surgeon in Charge of the Hospital of the New York Society for the Relief of the Ruptured and Crippled, New York City, etc., etc. New York: G. P. Putnam's Sons, 1874.

As the author states in his preface, the subject-matter of this work extends through a large range of topics. Not only do we find the subject of deformities treated, but the author has seen fit to place under the head of orthopædia—hernia, procidentia uteri, ectropion vesicæ, varicose veins, diseases of bursæ, synovitis, necrosis, and we may say diseases of the bones generally. Perhaps few surgeons, if any in this country, have treated a larger number of patients suffering from the different deformities which seek relief from orthopedic skill than Dr.

Knight. As the head of one of our noblest charities, his experience has been almost unlimited, having, as he tells us, had the supervision of 26,448 patients within the past ten years, and previously a private practice of thirty years, limited mainly to the ailments treated of in this work.

The volume opens with an interesting article on defective physical formation, and the surgical means of reducing deformity; and under the latter head we find that the use of force in breaking up adhesions about joints, which of late years has been introduced by some orthopedists as new, was practised by Sartorius upward of half a century ago.

In referring to the surgical management of deformities, especially those of the hands and feet, the author clearly shows that proper management, in manipulation, bandaging, and carefully-selected appliances, is as essential as the mere dividing of tendons, and that in many cases of slight deformities of the feet skillful manipulation and bandaging will be all-sufficient to restore them to a normal condition.

The work is abundantly illustrated with diagrams showing the varied apparatus which is used in correcting deformities. Quotations from foreign authors on these subjects are very freely given throughout the book, but we regret to say the views of his own countrymen, and the methods of practice of many of them, appear to have been studiously avoided by the author. Certainly Dr. Knight cannot be ignorant of the fact that there are many others, even in his own city, whose labors have done much to advance orthopedic surgery, and whose views have been made known in our medical societies and through their writings in the medical journals.

That the author has conscientiously given his views upon the subjects of which he treats, we have not a doubt, but that they must be regarded by many as often in error, and not in accordance with later opinions and more recent advances in these departments, is, we believe, also true.

With reference to the treatment recommended in very many instances, it must be considered rather old-fashioned, to say the least. Certainly it is not that now practised, we are happy to say, by many of our leading surgeons. Upon the subject of morbus coxarius, for instance, we cannot but feel that

Dr. Knight is in error when he undervalues the use of extension by weights and pulleys in certain stages of the disease, nor is the subject of excision of the head of the bone in some stages of this disease fairly or properly dealt with, especially when we consider the importance of this subject and the favorable results which we have known to follow this operation.

In many respects the volume is superficial, and we find in it much to invite severe criticism. Diseases of the bones, ectropion vesicæ, etc., had better been omitted altogether, as they fall within the domain of general surgery, and are more fully and ably set forth in our standard text-books of surgery. The views of the author are so utterly at variance, on some of these topics, with modern surgical teaching, that he will hardly add to his reputation by their publication.

In the matter of deformities, however, there is much that is valuable in the work, and the results claimed are certainly highly creditable to the author's patience and ingenuity in the management of difficult cases.

Art. IV.—*The Complete Hand-book of Obstetric Surgery; or, Short Rules for Practice in Every Emergency, from the Simplest to the most Formidable Operations connected with the Science of Obstetricy.* With numerous Illustrations. By Charles Clay, M. D., late Senior Surgeon and Lecturer in Midwifery, St. Mary's Hospital, Manchester, etc., etc. From the third London edition. Philadelphia: Lindsay and Blakiston, 1874, pp. 328.

This work, which has attained a considerable popularity in England, is intended as a guide for students and a reminder for practitioners in the performance of all the operations likely to be required in connection with obstetric practice. For a volume so small it certainly contains a vast amount of information, and covers, more or less fully, the whole of the ground. The directions are in the main safe and judicious, though differing in some respects from the usual teachings in this country. In some cases extreme brevity is obtained at the expense of details, and in others there are omissions that render the work incomplete, even as a hand-book. In treating of *post-mortem* hæmorrhage, for example, no mention is made of the use of injections of iron. Notwithstanding the somewhat dogmatic tone of the author, his large experience and well-known skill as an obstetrician and gynæcologist will insure him a respectful hearing. The character of the work is eminently practical, and one of its most important features is the attention bestowed on the minor operations and those most frequently required in practice. The author purposely devotes more space relatively to the operations with which every one is supposed to be well acquainted, because he believes them to be often neglected by the student in the general desire to run after great and striking operations. The methods advised for the cure of vesico- and recto-vaginal fistulæ are such as would probably result in failure, and they are described with evident want of confidence on the part of the author, who is behind the times in some departments of obstetric surgery, and does not seem to have availed himself of the experience of other laborers in the same field. This is especially evident in his remarks on pessaries. Both the student and the practitioner will, however, find much that is useful in the volume, though we cannot indorse it as a complete hand-book on the subjects of which it treats. The illustrations are numerous and good.

ART. V.—*A Guide to the Practical Examination of Urine. For the Use of Physicians and Students.* By JAMES TYSON, M. D., Hospital Lecturer on Pathological Anatomy in the University of Pennsylvania, etc. With a Plate and numerous Illustrations. Philadelphia: Lindsay & Blakiston, 1875, pp. 182.

THE author of this useful little treatise anticipates the thought most likely to occur on hearing of a new manual on examination of urine—that we have already hand-books enough on that subject—by the remark that most of such manuals are too limited in their scope, while the larger works are too bulky for daily use. It has therefore been the aim of the author to furnish a work which should fully supply the practical wants of the physician and student, and at the same time be of convenient size for frequent reference. This purpose has been well fulfilled, the practical experience of the author as a teacher of this branch enabling him greatly to condense his material and simplify his arrangement. The illustrations are prepared with much care, and for a small work are unusually complete. The modes of approximate estimation commonly used in the German laboratories are published, the author believes, for the first time in English. We notice several other features in the work which distinguish it from most of the manuals in general use.

ART. VI.—*Papers read before the Medico-Legal Society of New York, from its Organization. First Series. Revised edition.* New York: McDivitt, Campbell & Co., 1874.

THIS handsome octavo volume of 575 pages presents the first installment of the valuable papers which have been contributed to the Medico-Legal Society by various prominent members of the medical and legal professions. It comprises twenty-four monographs, in which questions relating to medical jurisprudence are discussed from the opposite points of view of law and medicine. In this way the professional world is furnished with the opinions of both sides, and enjoys the rare opportunity of contrasting them under circumstances favorable to a deliberate judgment. These monographs deal with the subjects of "Suicide and Life Insurance," "Alcoholism in Relation to Moral and Criminal Responsibility," "Hereditary Nervous Diseases," "The Plea of Insanity in Criminal Cases," "Poisoning," "The Medico-Legal Points in the Celebrated Trials of McFarland, Schöppe, and Ruloff," "Medical Expert Testimony," "The Deaf and Dumb in Relation to Criminal Responsibility," etc. The volume is furnished with an introduction, giving a sketch of the origin and progress of the Society, an appendix containing its constitution and by-laws, a table of contents, and a good index. As the Medico-Legal Society of New York is the first of its kind in existence, so this, its initial volume, is unique in English literature.

Art. VII.—*The Breath and the Diseases which give it a Fetid Odor. With Directions for Treatment.* By Joseph W. Howe, M. D., Clinical Professor of Surgery in the University of New York, Visiting-Surgeon to Charity Hospital, etc.

This unpretending little volume treats of the various disorders that commonly give rise to the disagreeable symptom known as "bad breath." Prominent among the causes of this symptom the author places mental emotion, diseases of the bones of the nose, mouth, etc., dyspepsia, and poisoning by minerals. The appropriate treatment in each class of cases is pointed out in a manner quite intelligible to the non-medical reader, for whom the work is specially designed, though it will be found to contain many observations and suggestions of value to the medical reader likewise. If we were to make any criticism, it would be regarding the rather free use advised of aromatic substances, to disguise a condition that is often susceptible of remedy if the cause is sought for and discovered.

Art. VIII.—*Essays on Conservative Medicine and Kindred Topics.* By Austin Flint, M. D., Professor of Principles and Practice of Medicine in Bellevue Hospital Medical College, etc., etc. Philadelphia: Henry C. Lea, 1874.

These essays have already appeared in different medical journals, but we are glad to see them brought together in this shape for reperusal and preservation. The author is so well known to the profession that it would be superfluous to say more than that these essays are worthy of him. His sound judgment, ripe experience, and elegant style, invest his works with a charm and interest peculiarly their own. Three of the above essays are on "Conservative Medicine;" the others are entitled "Medicine in the Past, the Present, and the Future;" "Alimentation in Disease;" "Tolerance of Disease;" "The Agency of the Mind in Etiology, Prophylaxis, and Therapeutics;" and "Divine Design as exemplified in the Natural History of Diseases."

Art. IX.—*Surgical Emergencies: Together with the Emergencies attendant on Parturition and the Treatment of Poisoning. A Manual for the Use of General Practitioners.* By Wm. Paul Swain, F. R. C. S., Surgeon to the Royal Albert Hospital, Devonport. With Eighty-two Illustrations. Philadelphia: Lindsay & Blakiston, 1874, pp. 189.

There is nothing original in this treatise. It is made up chiefly from the standard works, and is intended to convey in the briefest language directions for the immediate treatment of the various emergencies likely to occur in every-day practice. We do not find much to recommend the work above several others of similar scope and design.

Art. X.—*Therapeutics and Materia Medica. A Systematic Treatise on the Actions and Uses of Medicinal Agents, including their Description and History.* By Alfred Stillé, M. D., etc., etc. Fourth Edition, thoroughly revised and enlarged. In two volumes, pp. 968, 976. Philadelphia: H. C. Lea, 1874.

The profession will welcome with much satisfaction a new edition of this standard work. As a comprehensive treatise on therapeutics and materia medica it stands without a rival. It has been for some time out of print, and the author has wisely taken his own time to give it a thorough revision. The new edition contains about two hundred and fifty pages of matter entirely new, and many of the original chapters have been remodeled and adapted to recent advances and discoveries. The original classification of medicines has been retained, not because the author believes it to be perfect, but because he considers it to be better than any other with which he is acquainted. The nomenclature throughout has been made to conform to the last edition of the Pharmacopœia. The author long ago took his stand on the side of those who base their faith in medicines on clinical experience. We cannot agree with him, however, in his denunciation of what he calls the "mischievous error of seeking to deduce the therapeutical uses of medicines from their physiological action." We believe that by this method, slow and laborious though it be, great things will be accomplished for the therapeutics of the future. The term "mischievous" seems particularly inapplicable to the physiological method of research, inasmuch as errors can always be detected by the test of experience. It cannot be denied, however, that to clinical observation and experience we are at present indebted for nearly all that is of value to us in the treatment of disease. When the physiologists have done their work as thoroughly as Dr. Stillé has done his, we may be far wiser than we are to-day.

This treatise is one of which the profession may well be proud, and too much credit cannot be accorded to its distinguished author for the labor he has bestowed on the new edition.

ART. XI.—*Outlines of the Science and Practice of Medicine.* By WILLIAM AITKEN, M. D., F. R. S. Philadelphia: J. B. Lippincott & Co., 1874. 1 vol., cloth, 8vo, pp. 593.

THIS is simply a condensed edition, prepared by the author himself, of his large work in two volumes, which has long been highly esteemed, both in England and in this country. The American publication was edited by Dr. Meredith Clymer, and thus admirably adapted to the wants of the profession in the United States, by whom it has been fully appreciated. The smaller edition will be found very useful to students in hospital-practice, and to many others who from limited time or space cannot readily avail themselves of the larger work. The hand-book needs no special review. The author has succeeded perfectly in the difficult task of abridgment.

ART. XII.—*Experimentation on Animals, as a Means of Knowledge in Physiology, Pathology, and Practical Medicine.* By J. C. DALTON, M. D., Professor of Physiology in the College of Physicians and Surgeons. New York: F. W. Christern, 1875. Pp. 72.

PROF. DALTON has made a very able and temperate defense of the practice of experimenting on animals as a means of advancing scientific knowledge. His work is intended for the enlightenment of a class of well-meaning persons who, being ignorant alike of the character and purpose of physiological experiments on living animals, have assumed the attitude of opponents of scientific progress. Such persons will find in this little volume a condensed and interesting statement of the whole subject. Dr. Dalton discusses successively the character of experiments, their necessity, and their practical results, supporting his views by the opinions of many eminent professional gentlemen in this country and in Europe.

Art. XIII.—*A Guide to Urinary Analysis, for the Use of Physicians and Students.* By Henry G. Piffard, A. M., M. D., Physician to the Charity Hospital, to the New York Dispensary for Diseases of the Skin, etc., etc. New York: William Wood & Co., 1873. Pp. 88.

Through some inadvertency we failed to receive this little manual at the date of its publication, and it has now been long enough before the profession to be known on its merits. We need only say that the author has succeeded admirably in rendering clear and simple many of the methods of urinary analysis and examination not to be found in any one of the many manuals on the subject. Much that is commonplace is purposely omitted, while the processes necessary in careful analysis are minutely described. A number of excellent illustrations add to the value of the work.

Art. XIV.—*A Sketch of the Early History of Practical Anatomy. The Introductory Address to the Course of Lectures on Anatomy, at the Philadelphia School of Anatomy, delivered October* 6, 1874. By William W. Keen, M. D., Lecturer on Anatomy and Operative Surgery in the Philadelphia School of Anatomy, etc. Philadelphia: J. B. Lippincott & Co., 1874. Pp. 44.

This will be found a highly interesting and instructive review of the lives and labors of the early anatomists, with much that is not generally known regarding the times in which they lived.

Books and Pamphlets Received.—The Diseases of the Stomach. Being the third edition of the "Diagnosis and Treatment of the Varieties of Dyspepsia." Revised and enlarged. By Wilson Fox, M. D., F. R. C. P., F. R. S., Physician to University College Hospital, Holme Professor of Clinical Medicine, University College, London, etc., etc. With Illustrations. Philadelphia: Henry C. Lea, 1875.

Pulmonary Tuberculosis; its Pathology, Nature, Symptoms, Diagnosis, Prognosis, Causes, Hygiene, and Medical Treatment. By Addison P. Dutcher, M. D., Late Professor of the Principles and Practice of Medicine in the Cleveland Charity Hospital Medical School. Philadelphia: J. B. Lippincott & Co., 1875.

The Treatment of Nervous Diseases by Electricity. A Review of the Present Extent of Electrical Treatment, with Indications for its Employment. By Dr. Friedrich Fieber, of Vienna. Translated from the German by George W. Schweig, M. D. New York: G. P. Putnam's Sons, 1874. Pp. 64.

Catalogue of the Specimens in the Pathological Museum of the Philadelphia Hospital. Prepared by James Tyson, M. D., one of the Attending Physicians, and Pathologist to the Hospital; assisted by R. M. Bertolet, M. D., Microscopist to the Hospital. Philadelphia: Collins, 1874. Pp. 21.

On the Treatment of Pleurisy; with an Appendix of Cases, showing the Value of Combinations of Croton-Oil, Ether, and Iodine, as Counterirritants in other Diseases. By John W. Corson, M. D. New York: William Wood & Co., 1874. Pp. 31.

Dental Pathology and Surgery. By S. James A. Salter, M. B., F. R. S., Member of the Royal College of Surgeons, and Examiner in Dental Surgery at the College, and Dental Surgeon to Guy's Hospital. New York: William Wood & Co., 1875.

Contributions to the Annals of Medical Progress and Medical Education in the United States before and during the War of Independence. By Joseph M. Toner, M. D. Washington: Government Printing-Office, 1874.

Report of the Health-Officer of the City and County of San Francisco, for the Fiscal Year ending June 30, 1874. Henry Gibbons, Jr., M. D., Health-Officer. San Francisco: Spaulding & Barto, 1874.

Tumor of Lateral Portions of the Lower Jaw removed without External Wound. By C. F. Maunder, Surgeon to the London Hospital, etc. London: J. & A. Churchill, 1874. Pp. 27.

Transactions of the American Otological Society. Seventh Annual Meeting, Newport, R. I., July 15, 1874. Boston: James Campbell. 1875. Pp. 588.

Nineteenth Annual Report of the Trustees of the State Lunatic Asylum at Northampton, 1874. Boston: Wright & Potter, 1875.

The Longevity of Brain-Workers. By George M. Beard, M. D.

Reports on the Progress of Medicine.

SURGERY.

Prepared by SAMUEL B. WARD, M. D.

Salicylic Acid; a New Antiseptic.—This agent, composed of carbolic and carbonic acids, is said, when present in very small proportions even, to counteract various odors—those of mustard and almond-oil, for instance; to prevent or stop fermentation; delay the souring of fresh milk; prevent the decomposition of fresh urine; and, when rubbed over meat, to keep it fresh for weeks in the open air.

Prof. Thiersch has been experimenting as to its usefulness in surgery, and finds that it prevents the putrid odor of gangrenous wounds. Granulating surfaces dressed with a mixture of three parts of phosphate of soda, one part of the acid, and fifty of water, cicatrize rapidly. He comes to the conclusion that salicylic acid has all the advantages of carbolic acid, without the inconveniences of the latter.—*London Medical Record*, September 23, 1874.

Amyloid and Fatty Liver in Relation to Operations.—In a lecture on this subject, delivered recently by Mr. Richard Barwell, at Charing Cross Hospital, the dependence of the affection on prolonged suppuration connected with caries or necrosis of the bones, or disease of a joint, was first pointed out. The diagnosis between the two forms of disease was admitted to be difficult, but the amyloid liver is harder than the fatty one; the former sometimes reaches a size which the latter never attains; and the dry, opaque, rough, pale and inelastic skin of the former aids in the diagnosis. The balance of opinion is, that amyloid disease, once commenced, is of necessity a progressive and fatal malady. From this view the lecturer felt compelled to dissent, and he introduced two cases to illustrate the correctness of his opinion. The first was a child nearly seven years old, the subject of hip-joint disease, in consequence of which suppuration had gone on for nearly or quite three years; was emaciated to a mere bag of bones; and "the liver extended to a finger's-breadth from the crest of the ilium, thence crossed hardly half an inch above the umbilicus, and disappeared under the left hypochondrium; was hard and smooth."

For various reasons amputation at the hip-joint was considered necessary and was performed. About a year and a half after, the liver was examined by both the lecturer and Dr. Pollock, and "was found to be perfectly normal in size, and its functions duly performed."

The second case was that of a girl of fourteen years, also the subject of hip-joint disease of long standing, on whom it was necessary to resect the head of the femur and open through the acetabulum to give exit to pus confined within the pelvis. Before the operation "the liver was greatly enlarged; it extended downward and through two-thirds of the right lumbar region; in the middle line its edge was two fingers'-breadth above the umbilicus; it was smooth and considerably indurated." Eleven months afterward "the child was comparatively rosy and stout; the liver had very nearly gained its normal size, and its functions were duly performed."

The lecturer concludes that in such cases, "without operation, the patient must die; after operation, however hard, large, and changed be the liver, there is a fair, indeed a considerable, chance of recovery, as the above cases sufficiently indicate."—*London Lancet.*

Slippery-Elm Bougies.—Dr. J. D. Moncure recommends the use of bougies prepared from the ordinary slippery-elm bark found in the drug-stores, in the treatment of organic stricture of the urethra, considering the instrument preferable to all others for the following reasons:

1. It can be more readily introduced than any other, because it is self-lubricating, and can be made as small as needed.
2. It is safest, because so flexible that, when properly prepared, it is impossible to inflict any injury.
3. It is the quickest in its action, as, like the sponge-tent, though in a less degree, it absorbs the moisture, and, while in the stricture, dilates the opening to almost double its original size.
4. It is far less irritating, and, indeed, is sometimes soothing to the inflamed mucous membrane.
5. It can always be introduced into any stricture through which the smallest continuous stream of urine can pass.
6. It requires no especial amount of skill on the part of the operator to secure its introduction.—*Boston Medical and Surgical Journal*, from *Virginia Medical Monthly*, September 26th.

Foreign Bodies in Wharton's Duct.—This is the title of an article in the July and August numbers of the *Archives Générales de Médecine*, by Maurice Claudot. It commences with some general considerations concerning ranula, which he states may be of four kinds: 1. Mucous cyst (dilatation of sublingual, buccal, or other glands). 2. Salivary cyst (dilatation of Wharton's duct). 3. Serous cyst (Fleischmann's bursa).[1] 4. Dermoid cyst.

Of these the first and second are by far the most common. The next considers the causes producing salivary cyst, and finds them to be, first, salivary calculi; second, foreign bodies entering from the exterior; and, lastly, obliteration of Wharton's duct by inflammatory or other processes.

Four histories follow, of cases in which foreign bodies were found, as in the case of a shoemaker who was in the habit of holding such in his mouth; the second a fish-bone, around which a calculus formed, which was ultimately spontaneously expelled; the third a spikelet of grass; and the fourth a piece of straw.

Salivary cysts may be diagnosed from other forms of ranula by the fact that they are always unilateral, and in the location of the normal duct; by the fact that a probe may be introduced, and will either encounter a calculus, or pass into the cyst, the walls of which can be readily moved by it. Of course, in the rare case of idiopathic salivary cyst the probe cannot be made to enter at all. Further, on squeezing a salivary cyst a drop of liquid, consisting of saliva, or saliva mixed with pus, may be seen exuding from the orifice of Wharton's duct; and, lastly, tumefaction of the submaxillary gland, associated with a sublingual tumor, is a certain sign of retention of the saliva.

The sudden appearance of an acute salivary ranula, and simultaneously of an acute inflammation of the submaxillary gland, can admit of no other explanation than a foreign body in Wharton's duct. In any other case the progress of events will be much more slow and insidious.

The only treatment necessary is to remove the foreign body by a simple incision, the edges of which will reunite and the integrity of the duct be preserved. The method of Jobert, in which the wall of the cyst is stitched all around the incision to corresponding points of the mucous membrane of the mouth, is considered unnecessary, though in no way injurious.

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[1] These bursæ, said to exist under the mucous membrane of the floor of the mouth, and resting on the outer surface of each genio-hyo-glossus muscle, may be found described, by the man whose name they bear, in Schmidt's *Jahrbücher* for 1841, B. 32. Their existence as a normal structure has been doubted by Virchow and others, and they are not, so far as I can ascertain, described in any English anatomy. W.

Subscapular Friction-Sound, and the Development of Accidental Serous Bursa under the Scapula.—Under the above title Dr. Terrillow relates in the *Archives Génèrales de Médecine* for October, 1874, nine short histories of cases, and appends a few remarks. To Dr. Boinet is ascribed the credit of having for the first time, in 1867, called attention to the symptom of subscapular crackling. When present it is easily perceived by the ear placed over the scapula; or is felt by the hand placed in the same position, or on top of the shoulder, or even grasping the arm. The point where it is produced corresponds to the point of maximum intensity. All movements of the arm which are accompanied by movement of the shoulder-blade produce it; it is not usually accompanied by pain; and the noise is compared to that made by a horse while eating corn or oats, or sometimes the crackling of dry arthritis of the knee.

The principal causes of its production are:

1. An abnormal prominence of the ribs, or of the deep surface of the scapula, having produced, by constant pressure and movement, a perforation of the subscapularis and serratus magus muscles, and having facilitated the contact of the two bones.

2. A primary atrophy of the subscapularis muscles, in phthisical patients, for example.

3. Most generally, an anchylosis of the shoulder, complete or incomplete, true or false, which produces an exaggeration of the movements of the scapula, and is accompanied by a more or less marked muscular atrophy as above noted.

The anatomical cause of this friction-sound (the contact of two bony surfaces moving upon one another) may bring about the development of a serous bursa.

This serous bursa may become the seat of an hygroma, with or without rice-like bodies; and this may coexist with the friction-sound, or may, on the contrary, prevent its production by separating the scapula from the surface of the ribs.

The usual seat of these lesions is at the inferior angle and vertebral border of the scapula.

Surgery of Wounds of the Deep-seated Arteries ef the Leg.—In the *Medical Times and Gazette* for November, 1874, Mr. James Spence, Professor of Surgery in the University of Edinburgh, reports two interesting cases of the above character. In the first there was an incised wound on the outer side of the upper third of the leg, and profuse hæmorrhage without any complication.

The good old rule, in case of a wounded artery, "Tie the vessel at the point of wound and tie both ends of it whenever the wounded vessel is accessible," was adhered to, and was again justified by the good result which followed.

In the second case, one of wound of the posterior tibial artery, with no apparent complication, the same rule was followed. While the patient was coming under the influence of chloroform, a slight motion of the leg showed dislocation at the knee-joint to exist. As the capsule of the joint was not opened, and there was no tendency to return of the dislocation, after it had been reduced and the limb placed on pillows, the artery was secured and nothing further done. The next day, however, incipient gangrene of the limb necessitated amputation of the thigh, and the patient made a good recovery.

A New Operation for Strangulated Umbilical Hernia.—In the *Bulletin de Thérapeutique* for October 30, 1874, M. Demarquay, after alluding to the almost uniform fatality which follows the old operation of widely opening the sac by crucial incisions, describes the new one, by which he has saved one patient out of four. He extends an oblique incision from the middle of the tumor toward the left side of the abdominal wall, thus avoiding both the linea alba and the umbilical vein. The cellulo-adipose tissue is then divided, layer by layer, until the pedicle of the hernial sac is reached, when a small incision is made at the lower part of the left side of the sac. Through this the end of the left index-finger is introduced, so as to rest on the orifice of the hernia. Along the finger a falciform bistoury is passed, and an incision of at least three-quarters of an inch is made; this incison implicating the left side of the circumference of the hernial sac and including the whole thickness of the abdominal wall, which is not generally great. There being no important vessels on this side, no bleeding follows, and the tumor becomes less tense. An interrupted suture is carefully applied and covered with collodion. The great object of this operation is to divide freely enough to remove the strangulation and then leave the parts as they are. The sac is only interfered with to a small extent, and air cannot enter and exert an injurious effect on the inflamed surfaces. The aim of the operation is simply to remove the strangulation, and the parts involved will become disgorged and their functions reestablish themselves, and this even when there is a little herniary peritonitis. No taxis should be resorted to after the operation; for most of these hernias are irreducible, and attempts at reduction will only do mischief. He believes that good success will follow the operation if resorted to early, before inflammatory action sets in, and especially before general peritonitis occurs.—*Medical Times and Gazette*, December 5, 1874.

Heteroplastic Transplantations.—At a recent meeting of the *Académie des Sciences*, M. Benjamin Anger gave an account of his experiments in skin-grafting, in which he has been quite successful. He says that four, five, or six days after the operation the epidermis covering the grafts becomes detached, leaving the surface denuded, so as to resemble the integument to which a blister has been applied. This would seem to show that epidermic grafts succeed only on condition that a lamella of the dermis is united to the epidermis. It is not necessary that the graft should be taken from the individual to be operated on. Equal success has been obtained when the graft is taken from the recently-amputated limbs of others; from the skin removed with benign tumors; and from the preputial mucous membrane of a recent circumcision. The grafts employed measured from four-tenths to eight-tenths of an inch in circumference. One would naturally avoid taking grafts from the vicinity of malignant disease; or from a subject affected with any contagious disease; or after the parts had been so long removed from the body as to be cold.—*Medical Times and Gazette*, December 12, 1874.

M. Anger's conclusions do not agree with those of other observers, who state that it is only necessary to transplant epidermic scales, but they do agree with our own experience in the matter. W.

Treatment of Stricture of the Urethra.—In a clinical lecture recently delivered in Edinburgh by Thomas Annandale, that celebrated surgeon divided strictures into three classes: 1. Simple, uncomplicated organic stricture. 2. Organic stricture with constantly-recurring spasm or contraction. 3. Organic stricture complicated with—(*a.*) retention of urine, unrelievable with the catheter; (*b.*) obliteration of the urethra; (*c.*) urinary infiltration, abscess, or fistula; (*d.*) calculus in the urethra or bladder. In treating the *first*, M. Annandale prefers gradual dilatation, with steel instruments. Rupturing with some suitable instrument may be employed; but the lecturer believes that recontraction follows sooner than after gradual dilatation. In the *second*, internal division is recommended, and the best instrument he knows for the purpose is that figured in Dr. Gouley's recent work. The operation should be followed by the introduction of a No. 10 bougie at least once a week for two months. In the *third* class the most effectual treatment is by external urethrotomy, after which a silver or elastic catheter should be fastened in the bladder for three days, and a No. 10 bougie should be passed regularly twice a week, until the wound is healed, and for at least two months longer.—*Medical Times and Gazette*, December 12, 1874.

The *Medical Times and Gazette* for November 24th contains an interesting account of a case of that rare injury—simple fracture of the os calcis, by muscular contraction. The fragment broken off was about the size of a walnut, and was drawn upward three or four inches by the tendo-Achillis. The injury was treated by flexing the hip and knee joints, and extending the ankle, the limb being maintained in this position by suitable bandages and a stirrup. The fragment was then manipulated into good position and kept there by a pad and adhesive plaster. Fibrous union became tolerably firm, but necrosis of the calcaneum followed and several small pieces were removed.

At the end of nearly three months the patient left the hospital on crutches—the wound being simply superficial, and rapidly healing.

Translations.

Chronic Poisoning by Chloroform.—At the Congress at Lille Dr. Lendet referred to the following case: A consummate alcoholist, not succeeding in inebriating himself with alcohol, resorted to the use of chloroform. At last, he inhaled 150 grammes per diem. In this manner he obtained a peculiar intoxication, with a sense of prostration. After a time gangrene of one of the toes commenced, and it became necessary to amputate. The operator, rightly believing that it would be improper to use chloroform in this case to render his patient insensible, used instead a small dose of opium. Two centigrammes of the extract sufficed to determine a state of insensibility, which lasted twenty-four hours.

Commenting on this case, Dr. Lendet observes that, in chronic chloroform-poisoning, complete anæsthesia may be obtained by a small dose of opium, one centigramme, for example, while a dose ten times as large used before the chloroform-poisoning would not produce the same effect.

Verneuil confirms the opinion of Lendet, and insists on the importance of diagnosticating the alcoholism where surgical operations are to be performed, as the gangrenous phlogosis becomes very manifest in the tissues of drunkards after a slight traumatism. Attention is also called to the frequency of pulmonary congestion in these patients when they are chloroformed.

Finally, surprised by the anæsthesia occasioned by the administration of such a small dose of opium to an individual under the influence of chloroform, Verneuil asks if, by analogy, an equivalent result might not be obtained with these small doses in alcoholized subjects. This question is answered in part by Ollier, who called attention to the utility of the association of opium with chloroform for protracting anæsthesia. After chloroforming he succeeded, by the repeated injection of morphine, in protracting the anæsthesia for more than twenty-four hours. Broclin was witness to a lethal accident occasioned by the simultaneous and combined use of chloroform and laudanum in a severe neuralgia. The dose and manner of use of these two agents were, however, not stated.—*Gaz. des Hôp.*, September, 1874. G. R. C.

Removal of Solid Dressings.—Prof. Schinzinger (*Berl. Klin. Wschr.*) mentions a new method by which these dressings can be easily removed. The skin having been protected by flannel or cotton, the author places an oiled piece of tape, parallel with the length of the limb, over it, and covers it with a piece of tissue-paper one inch in breadth, in order to keepi t movable. The ends of the tape are allowed to project a few inches above and below after the dressings have been applied in the usual manner. The movability of the tape can be tested a few minutes after the dressing has hardened. To remove the dressing, a chain-saw is attached to the tape below and pulled out above, and the dressing is then sawed through. If the dressing is longer than the ordinary chain-saw (40 centimetres), the oiled tape may be allowed to project in corresponding intervals of the hard dressing, which is then removed in sections.—*Med. Chir. Centralblatt*, 31, 1874. E. F.

Koumiss as a Remedy.—Koumiss is mare's milk rendered alcoholic by fermentation. It is the customary beverage among the tribes who live on the plains of Eastern Russia; these tribes are nearly exempt from pulmonary phthisis, and this fact led to the employment of this article in the treatment of that disease. It is a white liquid, like fresh milk, without clots of fatty or cheesy matters, and is preserved in hermetically-closed bottles. It sparkles like champagne, its taste and odor are somewhat acid, which latter property increases as fermentation develops. It is not a pleasant beverage, but is well borne and does not cause nausea. The koumiss employed at the Neckar Hospital is prepared with ass's and cow's milk in equal proportions, with a certain quantity of milk-sugar. When first taken, koumiss causes general excitation, the pulse becomes fuller and more frequent, with diuresis, increased heat, perhaps urticaria; but in three or four days tolerance is established, and then unequivocal signs of amelioration set in; the appetite returns, vomiting ceases, the patient gains flesh and enjoys good sleep. Dr. Chauffard reports the amelioration of eight patients suffering from phthisis, and of one with albuminuria.—*Bull. de Thérap.*, 1874. E. F.

Treatment of Anal Vegetations.—M. Cruveilhier, of the Hôpital St.-Louis, believes with the majority of surgeons that these sessile or pediculated vegetations are not dependent on the syphilitic virus, and that therefore internal treatment is not appropriate. They must be destroyed locally in a radical manner, for if a single one is allowed to remain, however small it may be, it will form the starting-point of new vegetations, which will multiply without measure. He has employed excision with curved scissors, followed or not by cauterization with diluted perchloride of iron. But he prefers a milder and often more efficacious remedy, pure chromic acid, which, applied to the small tumors, the healthy parts being protected, mummifies them and causes their decay. This caustic is less painful than nitric acid, or acid nitrate of mercury, and less often causes inflammation in the neighborhood. If these means fail, the operation of removal with the knife must be resorted to.—*Revue de Thérap.*, 15, 1874. E. F.

Tepid Baths in Fevers.—Dr. Berthomier demonstrates that, contrary to the opinion of Ziemssen and Leibermeister, prolonged tepid baths lower the temperature. After noting the favorable effects of tepid baths in tuberculosis, a series of experiences is given, which demonstrate that with baths at a temperature of 36° to 37° C. the thermogenesis of the body is lowered by one or two degrees, and the pulse is lowered by several beats. According to this writer, the depression is more prolonged than that produced by cold baths.—*Bull. Gén. de Thérap.*, and *Gaz. Med. Ital.*, *Ven.*, 35, 1874. G. R. C.

Miscellany.

Appointments, Honors, etc.—At a late meeting of the Board of Governors of the Woman's Hospital in this city, the by-laws were so amended as to place the hospital under the charge of three surgeons, instead of four; no vacancy exists, therefore, in consequence of the resignation of Dr. Sims. Dr. John P. Gray, Superintendent of the State Lunatic Asylum in Utica, is delivering a course of lectures in the Bellevue College, on "Diseases of the Brain and Nervous System." Dr. Henry G. Piffard, of this city, has been appointed Honorary Dermatologist to the Board of Health. At a late meeting of the College of Physicians and Surgeons of this city, Dr. Samuel T. Hubbard was elected a trustee, in place of Dr. Abram DuBois, resigned. Drs. F. N. Otis, R. M. Taylor, and W. H. Van Wyke, have been appointed on the visiting staff of Charity Hospital. Dr. S. Oakley Vanderpool has been giving a series of lectures on "Hygiene," in the Bellevue Hospital Medical College.

Prof. Huxley will undertake the duties of the chair of Natural History, in the University of Edinburgh, in the ensuing summer session, in place of Prof. Wyville Thomson, absent in the Challenger surveying expedition. The late Dr. Anstie's position as lecturer on medicine in the Westminster Hospital is filled at present by Drs. Basham and Fincham. Dr. David Lyell, an old arctic explorer, has been appointed by the British Government to decide on the character of the food supplied to the new Arctic Expedition. Dr. Lionel Beale has assumed the duties of Professor of Physiology in King's College, in place of Dr. Rutherford, who has been transferred to the University of Edinburgh. Dr. Quain is editing a Dictionary of Medicine, to be published in one volume, by the

Messrs. Longmans & Co. Robert McDowell, M. D., F. R. S., has been elected President of the Pathological Society of Dublin. Prof. Chevreul has resigned his position as Director of the Musée d'Histoire Naturelle, of Paris. M. Chevreul published his first paper, on the analysis of fossil bones, more than sixty-eight years ago, and has ever since occupied a leading position in the scientific world, and is still actively engaged in study and investigation.

The Recapitulation Hypothesis.—Mr. E. R. Lankester recently read a paper before the British Association—Department of Zoology and Botany—in which he referred to what has been called the recapitulation hypothesis, according to which all living things in their development present a rapid series of pictures, or dissolving views, of their ancestors, arranged in historical order. Applying this to the human race, he said that the earliest commencement of a human being was a small speck of protoplasm of mucus-like consistency, such as existed in ponds. A later stage exhibited him as a small sac, composed of two layers of living corpuscles, which he inherited from polyp-like ancestors, and such as was to-day seen in polyps. Still later he was an elongated creature, with slits in the side of the neck, which, like the gill-slits of the shark, he inherited from a shark-like ancestor. Six months after birth the child continued to inherit qualities from its ancestors, viz., from those which crawled on four legs; and at a later period certain irrepressible tendencies made it clear that qualities were inherited from climbing and shrieking animals.

Alumni Association of the Albany Medical College.—The second annual meeting of the Association of the Alumni of the Albany Medical College was held in the city of Albany, December 22d. The following officers were elected for the ensuing year: President, John H. Beech; Vice-Presidents, Drs. Alson D. Hull, B. N. Mynderse, Alexander Shiland, Solomon Van Etten, and Charles L. Spencer; Secretary, Dr. Willis G. Tucker; Treasurer, Dr. G. L. Ullman; Executive Committee, Drs. H. D. Didama, William S. Young, James H. Scoon, James S. Bailey, M. H. Burton, John H. Hill, Charles H. Burbeck, A. P Ten Eyck, J. H. Blatner, Oscar Myers. The address by the retiring President, Prof. Didama, of the Syracuse University, was listened to with much interest. In the evening the Association partook of its annual supper at the Delavan House, about one hundred and forty students being present.

Experimental Production of Giant-Cells. — The *Medical Times and Gazette* gives a summary of Dr. Ernest Ziegler's experiments regarding the growth of connective tissue during inflammation. He cements by the corners two little squares of glass, leaving a free capillary space between the plates. These are inserted under the skin or periosteum, or in the large serous cavities, of dogs. Dr. Ziegler has thus caused the white blood-corpuscles to migrate into the glass cells, where they undergo important changes, the most interesting of which is the formation of a reticulated tissue in which epithelioid cells are imbedded, and in which an abundant development of giant-cells takes place. These giant-cells are composed of finely granular protoplasm. He has also observed the formation of connective tissue and blood-vessels from the white corpuscles.

The Warren Triennial Prize.—The Trustees of the Massachusetts General Hospital give notice that the next Warren Prize, amounting to somewhat less than four hundred dollars, will be awarded to the author of the best essay, considered worthy of a prize, on any subject in physiology, surgery, or pathological anatomy, embodying original researches.

Each essay should be accompanied with a sealed envelope containing the author's name and address, and be sent to the Resident Physician of the Massachusetts General Hospital before February 1, 1877.

Competition for a Lectureship.—The *Chicago Medical Journal* for January describes at length the recent competition between ten applicants for the position of Lecturer on Obstetrics, in the Spring Faculty of Rush Medical College. Each of the aspirants was required to deliver a lecture, on a subject previously assigned, before the Faculty and a large audience of medical gentlemen and students. From the ten, four were chosen for a more severe ordeal, that of delivering a lecture impromptu on a subject drawn by ballot on the spot. Two of the four did so well that the report says, "The only regret felt and expressed by the judges in awarding the lectureship to Dr. Sawyer was the necessity of withholding it from Dr. Knox." The fortunate victor is Dr. E. Warren Sawyer, a graduate of the Harvard Medical School.

New Method of ascertaining Death.—Dr. Monteverdi, of Cremona (*Philadelphia Medical Times*), has proposed a simple, easy, and certain method of deciding whether a person is really dead. He injects a drop or two of ammonia beneath the skin. If the person be dead, no effect, or next to none, is produced; but if the person be alive, a red color appears at the point of the injection. He has published a pamphlet on the subject, illustrated with six plates; and the plan, simple as it is, seems likely to be useful in preventing the possibility of burying alive.

New York Society of Neurology and Electrology.—At the annual meeting of this Society, held December 21st, the following officers were elected for the ensuing year: President, Meredith Clymer, M. D.; Vice-President, John C. Dalton, M. D.; Councilors, Austin Flint, Jr., M. D., D. B. St. John Roosa, M. D., Edward G. Loring, Jr., M. D., William H. Draper, M. D., William T. Lusk, M. D.; Corresponding Secretary, John J. Mason, M. D.; Recording Secretary and Treasurer, N. B. Emerson, M. D.; Curator, Edward G. Janeway, M. D.

Prize Essay on Electricity.—A prize for an original essay on the use of electricity in acute diseases is offered by Dr. George M. Beard, editor of the *Archives of Electrology and Neurology*. The essay must be founded entirely on the original experience of the author, and should not exceed fifteen pages of the above-mentioned journal, in which the successful paper is to be published in November next. The essays should be handed in by September 1, 1875. The amount of the prize is twenty-five dollars.

Death from Methylene.—The *Lancet* reports the death, on December 17th, of a woman, aged twenty-five years, from the administration of bichloride of methylene, given preparatory to a slight operation. Three drachms by measure of the anæsthetic were poured into the inhaler, and at the end of two minutes the breathing became stertorous and the inhaler was promptly removed. Respiration continued for some time, but the pulse rapidly failed and suddenly ceased. Artificial respiration was kept up for forty minutes, but in vain. The same patient had previously taken methylene without any unpleasant consequences.

Medical Charts of the United States.—We direct attention to the advertisement in this Journal of a series of maps, showing by colors the prevalence of the various diseases in each of the States and Territories. We understand that the edition is limited, and that owing to the expense of preparation a new edition will not probably be issued. These maps convey much information that cannot be obtained from any other source, and are of special value to insurance companies and to public institutions.

The Growth of Ipecacuanha in India.—According to the *Pharmaceutical Journal*, Dr. King, Superintendent of the Calcutta Botanic Gardens, states in a late report that the propagation of the ipecacuanha-plant by root and leaf-cuttings has been so successful that there is at present a stock of sixty-three thousand living plants; whereas, four years since, there were at the Cinchona Gardens but twelve cuttings, of which seven were afterward accidentally destroyed.

An Antidote to Chloroform.—Dr. Schüller has discovered that the nitrite of amyl quickly removes the effects of chloroform on the vessels of the pia mater, and that even in cases of advanced narcotism from the latter drug it rapidly relieves the dyspnœa and labored respiration, restoring the strength of the pulse, and the reflex excitability. This discovery may prove of much practical value where chloroform continues to be the favorite anæsthetic.

Medical Legislation in Virginia.—A praiseworthy effort is being made for the passage of a bill in the Virginia Legislature to authorize the establishment of a State Board of Medical Examiners. At present, on payment of a trifling license-fee, any one, no matter how incompetent, is permitted to practise medicine and surgery. A general interest is manifest in the different States on this important subject. These small beginnings augur well for the future.

The Tribulations of Medical Teachers abroad.—Prof. Cyon, of St. Petersburg, has made himself so obnoxious to the medical students by the severity of his examinations that he has been requested to absent himself for a few weeks. The Paris Medical School has been partially reopened, but M. Chauffard, though not interrupted in his first lecture, was almost deserted by the students, finishing his lecture, it is said, to an audience of three!

Faculties of Medicine in France.—According to *La Liberté*, the Medical Faculty of Paris has an attendance of 5,000 students. The nine other Medical Faculties in France have altogether only about 3,000 students. During the year 1874, the Medical Faculty of Paris granted about 500 diplomas. The National Assembly has passed the bill for creating two Faculties of Medicine, in Lyons and Bordeaux.

Medical Service in the British Army and Navy.—According to the London *Medical Record*, the greatest dissatisfaction exists among both the army and navy surgeons in the British service, on account of the unjust and illiberal treatment of medical officers. In the navy alone there are sixty vacancies, and no candidates, and there is a "chorus of discontent from one end of the service to the other."

Summer Sessions in Southern Schools.—We are glad to see the announcement of spring and summer sessions in the Medical College of Virginia, and hope some of the other Southern schools will follow the good example. Such additional advantages of study in the long intervals between the winter sessions will be highly appreciated by all earnest students.

Encyclopædias.—A new edition of the "Encyclopædia Britannica" is in preparation by Messrs. A. & C. Black, of Edinburgh. It will be thoroughly revised, considerably enlarged, and abundantly illustrated. This will make the ninth edition that has appeared. The new edition of Appletons' "American Cyclopædia" is progressing rapidly, and will be when completed the most comprehensive work of the kind on the topics of chief interest and value to American readers.

The Boston Medical and Surgical Journal.—This venerable journal has been transferred to the publishing-house of H. O. Houghton & Co., and begins the new volume with a neat gray cover, much improved in general appearance, and with an air of vigor and prosperity in all its departments. It is now the handsomest weekly published in this country.

Suspension of a Canada Medical College.—The Victoria Medical School, of Toronto, has been closed suddenly in the middle of the winter session. The reason assigned is the want of a sufficient number of students to remunerate the Faculty. The Toronto School of Medicine, on the contrary, is in a very flourishing condition.

Septic Poison in Water.—Prof. Lister is said to have arrived at the conclusion, as a result of recent experiments, that the septic matter present in water is not in solution, but consists of insoluble particles held in suspense. This will give a new importance to the simple process of filtering water intended for drinking-purposes.

Cruel Generosity.—The homœopathic practitioners of St. Louis are making strenuous efforts to obtain a footing in the hospitals of that city. The *Missouri Clinical Record* makes the following fatal proposal:

"Let our Board of Health admit to practice in our hospitals the eclectics, homœopaths, and others who may desire it; but let it, at the same time, be required by law that there be kept the strictest accounts of the diagnosis, treatment, and all other matters appertaining to the patients under their care."

The University of Edinburgh.—This old and popular university has this season 1,868 matriculants, against 1,738 last year. The accomodation for students is said to be very deficient. The trustees are in need of £100,000 for new buildings, etc.; £70,000 have already been subscribed in Scotland, and it is proposed to raise the remainder in London.

A Wise Prohibition.—The French Government is said to have forbidden pilgrimages of the Algerian Mussulmans to Mecca, on account of the plague which prevails in some of the cities on the route. The Egyptian authorities have also forbidden convoys of pilgrims to leave Suez.

The Medical Record.—Since its advent as a weekly this journal has appeared punctually every Saturday morning. It is somewhat diminished in size, but not otherwise changed in appearance. The *Record* has now a fine opportunity of becoming the leading medical newspaper in the country.

A Prosperous University.—The University of Syracuse has received contributions amounting to $175,000 since last June. One gentleman alone, who modestly withholds his name, has given the handsome sum of $20,000, and promises more in the future.

Astley Cooper Prize.—The next Triennial Prize of £300, under the will of the late Sir Astley P. Cooper, Bart., will be awarded to the author of the best essay or treatise on "The Anatomy, Physiology, and Pathology of the Sympathetic Nervous System."

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from December 14, 1874, *to January* 13, 1875.

Cooper, George E., Surgeon.—Relieved from duty at Benicia Barracks, Cal., and assigned to duty at Point San José, Cal. S. O. 124, Department of California, December 11, 1874.

Kinsman, J. H., Assistant Surgeon.—Assigned to duty at Fort Abraham Lincoln, D. T. S. O. 284, Department of Dakota, December 30, 1874.

Bentley, E., Assistant Surgeon.—When relieved by Surgeon Cooper, to report to the Medical Director at these headquarters for duty. S. O. 124, C. S., Department of California.

White, R. H., Assistant Surgeon.—Relieved from duty in Department of the Gulf, and to rejoin his proper station in the Military Division of the Atlantic. S. O. 278, A. G. O., December 30, 1874.

Rose, George S., Assistant Surgeon.—When relieved by Assistant-Surgeon Loring, to comply with War Department orders No. 233. S. O. 111, C. S., Department of Arizona, December 21, 1874.

Loring, L. Y., Assistant Surgeon.—Assigned to duty at Fort Yuma, Cal. S. O. 111, C. S., Department of Arizona.

Wiggin, A. W., Assistant Surgeon.—Relieved from duty in Department of the Columbia, to report in person to the President of the Army Medical Board, New York City, for examination for promotion, and, upon its completion, by letter to the Surgeon-General. S. O. 3, A. G. O., January 6, 1874.

Winne, C. K., Assistant Surgeon.—Assigned to duty at Sidney Barracks, Neb. S. O. 185, Department of the Platte, December 17, 1874.

Paulding, H. O., Assistant Surgeon.—Assigned to temporary duty at Fort Snelling, Minn. S. O. 275, Department of Dakota, December 14, 1874.

Jackson, D., Assistant Surgeon.—Assigned to temporary duty at these headquarters. S. O. 199, Department of Texas, December 21, 1874.

Semig, B. G., Assistant Surgeon.—Assigned to duty at Camp Halleck, Nev. S. O. 124, C. S., Department of California.

Skinner, J. O., Assistant Surgeon.—Relieved from duty at the Presidio, and to comply, without delay with S. O. 260, A. G. O., November 30, 1874. S. O. 159, Department of California, December 22, 1874.

De Loffre, A. A., Assistant Surgeon.—To report in person, for duty, to Colonel N. A. Miles, Fifth Infantry, commanding Indian Territory Expedition. S. O. 205, Department of the Missouri, December 10, 1874.

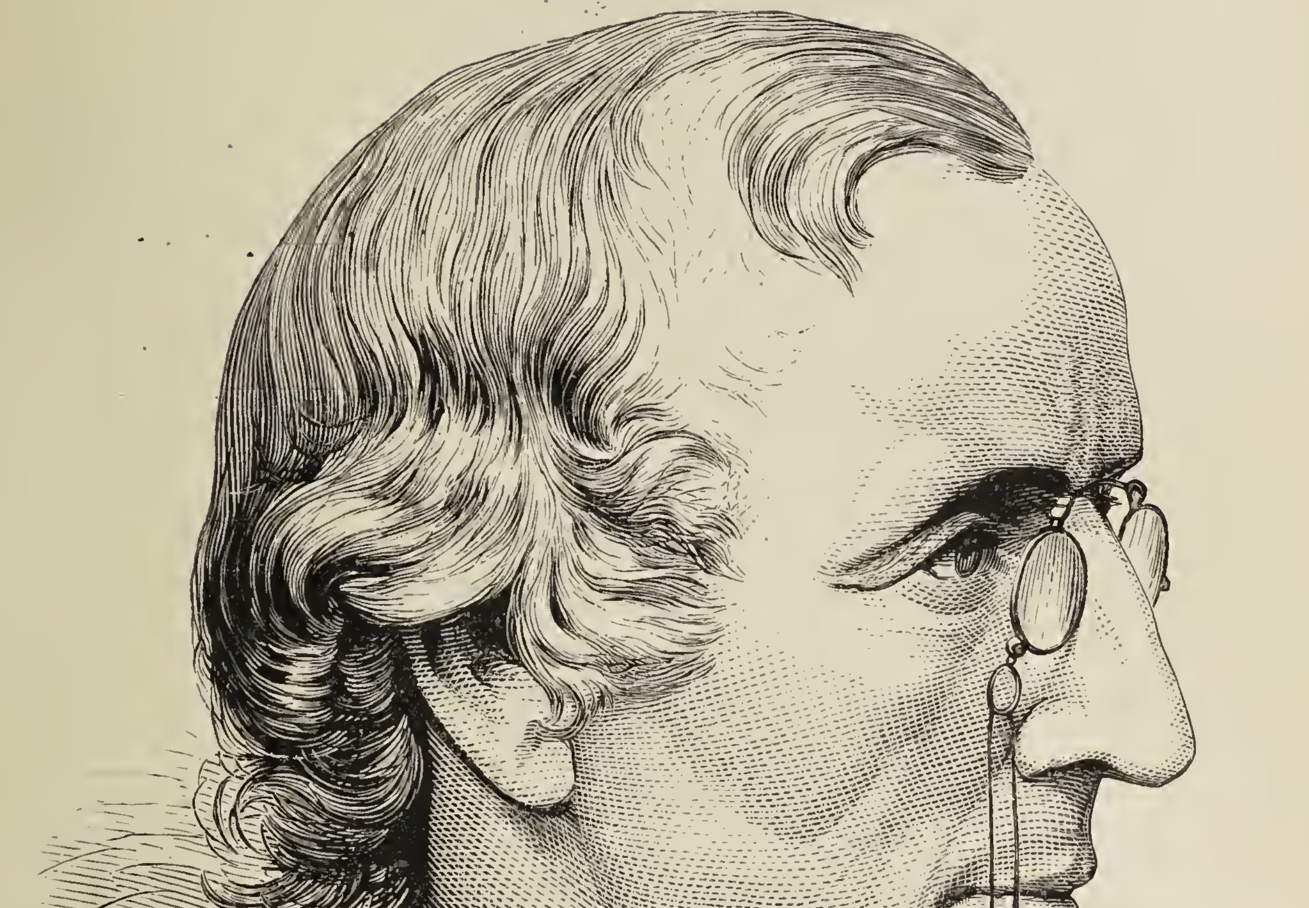
Abadie, E. H., Surgeon.—Died at St. Louis, Mo., December 22, 1874, of concussion and compression of the brain—the result of an accident.

Obituary.

Lieutenant-Colonel E. H. Abadie, surgeon in the U. S. Army, died at his residence in this city (St. Louis), December 22d, from the effect of injuries received while alighting from a street-car, being knocked down and run over by a passing vehicle. Dr. Abadie was born in France, August 16, 1809, and consequently at the time of his death was in his sixty-sixth year. His family settled in Philadelphia, where he pursued his medical studies at the University of Pennsylvania, and upon their completion was admitted into the army as assistant surgeon, his commission bearing date of 1836. He passed through the Cherokee and Mexican Wars, and during our late struggle was medical director upon the staff of General Canby. After the war he was appointed medical purveyor in St. Louis, and at a subsequent period medical director of the Department of the Lakes.—*Missouri Clinical Record*, January, 1875.

Dr. James Van Zant Blaney, Professor of Analytical Chemistry in Rush Medical College, died recently in Chicago. Dr. Blaney was born at Newcastle, Delaware, May 1, 1820. He graduated at Princeton, and received his medical education at the University of Pennsylvania. He was a pupil of Prof. Henry, at the Smithsonian Institution, ably assisting that gentleman in his chemical laboratory. He removed to Chicago thirty years ago. In connection with Prof. Brainard, he founded the Rush Medical College, and upon the death of President Brainard, in 1866, succeeded him, filling the position until compelled by ill-health to resign, some three or four years ago. He also founded the *Chicago Medical Journal*, and edited it for some time. He was at one time Professor of Chemistry in the Northwestern University, and was also medical director in connection with several departments of the Union army in Virginia.

Surgeon-General R. J. O'Flaherty, C. B., principal medical officer of the British troops in the Bombay Presidency, died in Bombay, December 8, 1874.



PROFESSOR JEFFRIES WYMAN.

Born. August 11, 1814. Died, September 4, 1874.

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MEDICAL JOURNAL:

A MONTHLY RECORD OF

MEDICINE AND THE COLLATERAL SCIENCES.

Vol. XXI.] MARCH, 1875. [No. 3.

Original Communications.

Art. I.—*Motor Centres in the Cerebral Convolutions; their Existence and Localization.* Report of the Committee on the above Subject, appointed by the New York Society of Neurology and Electrology, consisting of Drs. J. C. Dalton, J. W. S. Arnold, George M. Beard, A. Flint, Jr., and John J. Mason. Presented December 21, 1874.

In pursuance of the subject referred to them, the Committee have experimented upon five dogs, weighing each from six to eleven kilogrammes. In each experiment the animal was etherized and kept more or less completely under the influence of the anæsthetic during the whole course of the experiment. A portion of the cranium and dura mater was removed on one or both sides, over the convexities of the cerebral hemispheres, for a space averaging five centimetres longitudinally by two centimetres transversely. The exposed cerebral surfaces were then subjected, at different points, to the stimulus of a galvanic current from a battery which consisted sometimes of eight, sometimes of sixteen cells; each cell being composed of a carbon and an amalgamated zinc plate, immersed in a solution of potassium bichromate, one part; sulphuric acid, one part; water, ten parts.

The electrodes were rounded platinum points, insulated by a coating of hard rubber to within a distance of one millimetre from their extremities, and were fixed usually at the distance of one millimetre apart. When in action the galvanic current thus produced was imperceptible on the tips of the fingers, very slightly perceptible on the cheeks, and distinctly perceptible, though not at all painful, upon the tongue. The Committee have seen reason to believe that the results obtained by using currents of this slight degree of intensity are of greater precision than those obtained with a more powerful stimulus.

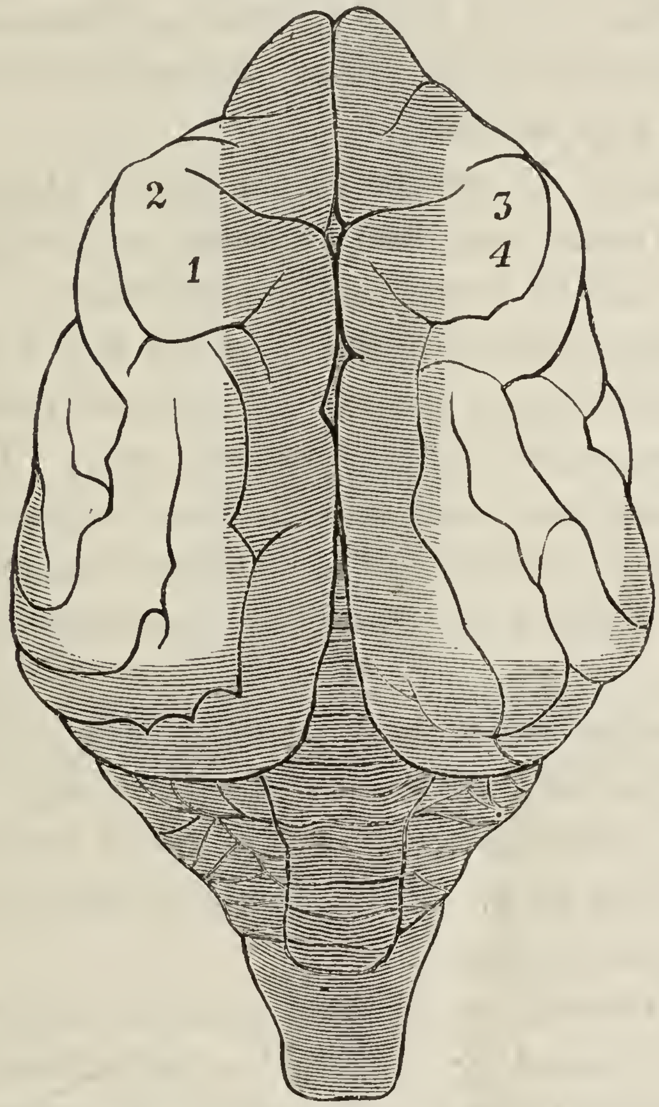
The electrodes were placed in contact with the cerebral surface in such a way as not to wound, but only to touch it. As a rule, they were held in contact with the brain, at each application, for about one second. On two occasions they were applied alternately to the surface of the dura mater and to that of the brain, and the difference in the effects noted. The applications at each of the different points were frequently repeated, in order to make sure that the effects produced were not accidental. Thus on seven different occasions, the contraction of certain muscles was obtained by applying the electrodes to a particular part ten times in succession, on one occasion twenty-five times, and on one occasion forty times, with a moderate interval between the applications. The spots on the cerebral surface separately examined were situated from two and a half to five or seven millimetres distant from each other. After a particular point had been found, where the application of the electrodes caused a distinct muscular contraction, the application was repeated until the galvanic current had produced a slight brownish discoloration sufficient to mark the spot; and at the end of the experiment the location of each spot was permanently fixed by the insertion of a round-headed steel needle into the cerebral substance. The animal was then killed, the encephalon removed and preserved in spirit, with the needles in place, for future reference. It is only by this means that the points stimulated in different experiments can be compared with each other, since particular convolutions cannot be recognized with certainty until the whole brain is exposed.

The following are the details of the experiments:

Experiment No. I., *June* 18*th.*—The skull and dura mater were removed on the left side, so as to expose a surface of the brain measuring four and a half centimetres longitudinally by two centimetres transversely; the inner edge of the exposed portion being about one centimetre distant from the median line.

Application of Electrodes to the Left Hemisphere.—The electrodes were applied to a point situated about the middle of the post-frontal convolution, marked No. 1 in the diagram.

Experiment No. I.



1. Flexion and adduction of opposite hind-leg, ten times; accompanied eight times with slight extension of opposite fore-leg.
2. Extension of opposite hind leg, eight times; accompanied three times with slight flexion of opposite fore-leg; three times, slight depression of shoulder on same side.
3. Simultaneous extension of opposite fore and hind legs, nine times. Extension of opposite fore-leg only, three times.
4. Flexion of opposite fore-paw only, twice.

The right hind-leg was at once drawn upward and inward. This was repeated ten times with a similar result. The contractions were immediate, perfectly distinct, and momentary in duration; rather increasing in vigor with the later applications. Eight times they were accompanied also by slight extension of the right fore-leg. No other movement.

The electrodes were then applied to point No. 2, situated about seven millimetres farther forward and outward, near the outer extremity of the frontal fissure, producing eight times in succession extension of the right hind-leg, very marked, and increasing in vigor with successive applications. Three times this movement was accompanied by slight flexion of the right fore-leg, and three times by a depression of the left shoulder, neither of these actions being at any time so well marked as the former one. No other motion.

All the rest of the exposed surface of the left hemisphere was tested, three times over, by the application of the electrodes at successive spots about five millimetres apart, without producing any movement.

Application of Electrodes to the Right Hemisphere.—The surface of the brain was then exposed on the right side, to a similar extent and in corresponding position.

The electrodes were applied to point No. 3, near the outer extremity of the frontal fissure. The first three applications produced extension of the left fore-leg only. The subsequent nine applications produced simultaneous extension of the left fore and hind legs, both about equally well marked, and rather increasing in vigor with the later applications. No other movement.

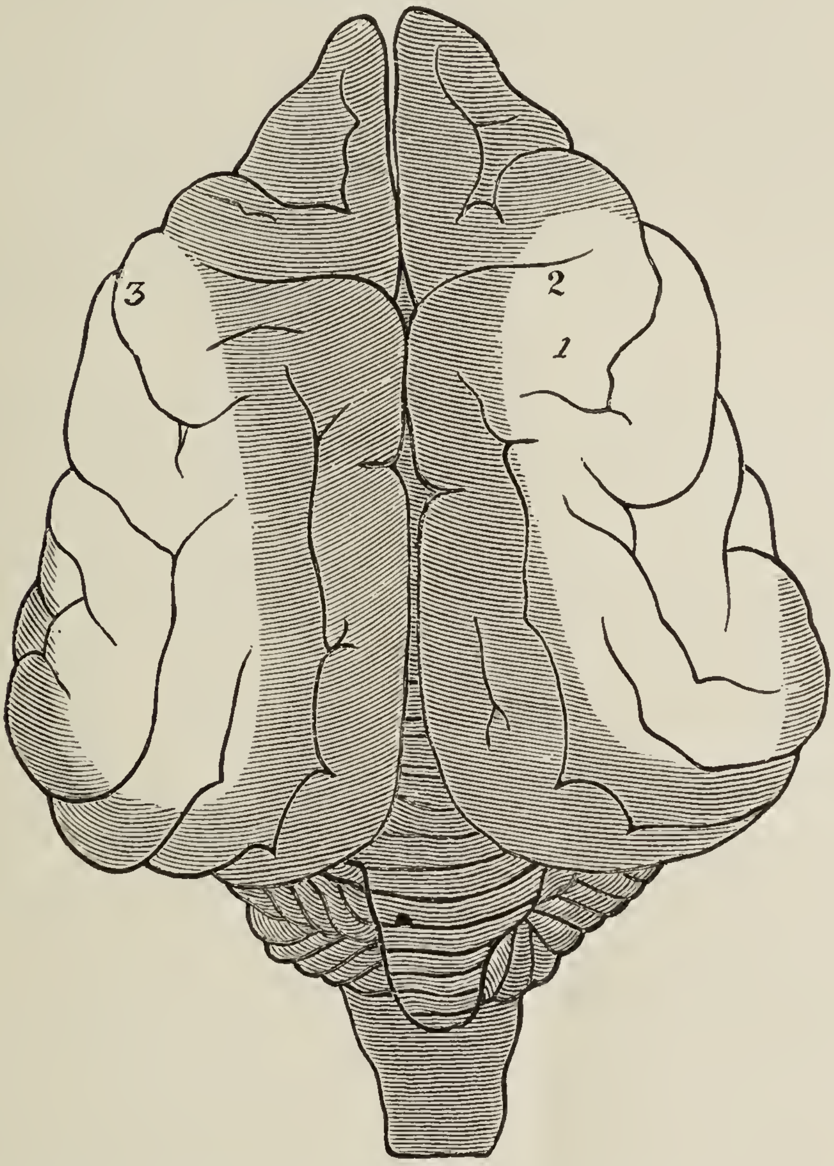
The electrodes were then applied to spot No. 4, situated about two and a half millimetres farther back. The application produced, twice in succession, a slight instantaneous flexion of the left fore-paw. Subsequent applications at the same point were without effect.

The remainder of the exposed cerebral surface on the right side was then tested by repeated applications, in the same manner as it had been done on the left, without producing any movement.

Experiment No. II., *June 22d.*—The dog being etherized, the surface of the left cerebral hemisphere was exposed for a space of about five centimetres longitudinally and two centimetres transversely. The same operation was at once done on the right side, except that, in order to avoid a too long exposure of the brain, the dura mater was left in place until the time for examination arrived. There was an unusually abundant hæmorrhage from the diploë of the skull on the left side, which continued a long time before it could be permanently stopped, causing a considerable loss of blood.

Application of Electrodes to the Left Hemisphere.—With only eight cells of the battery in action, the electrodes were applied over the whole exposed surface of the left hemisphere, at intervals of three to five millimetres, without producing any movement. The strength of the battery was then increased to sixteen cells, and the electrodes were again applied all over the exposed surface, as before, without producing any movement.

Experiment No. II.



1. Flexion of opposite fore-paw only, ten times.
2. Flexion of opposite fore paw, accompanied by incomplete flexion of whole of opposite fore-limb.
3. Flexion of head on neck, six times; accompanied three times by flexion of opposite fore-leg.

Application of Electrodes to the Right Hemisphere.—The electrodes, applied to point No. 1, in the back part of the post-frontal convolution, produced, ten times in succession, distinct momentary flexion of the left fore-paw, without any other movement.

Applied to point No. 2, about three millimetres in front of the last, they produced repeatedly similar flexion of the left fore-paw, but accompanied by incomplete flexion of the whole limb.

The electrodes were then applied in succession to three points, situated respectively three millimetres inward, three millimetres outward, and three millimetres directly backward from No. 1, ten times to each, without producing any movement.

Immediately afterward again applied to point No. 2, they produced flexion of the left fore-limb, as before.

They were then applied all over the remainder of the exposed portion of the right hemisphere, without producing any effect.

Reapplication of Electrodes to the Left Hemisphere.—The electrodes being again applied, on the left side, to point No. 3, just outside of the external end of the frontal fissure, produced, six times in succession, immediate and momentary flexion of the head on the neck in the median line; accompanied three times by flexion of the right fore-leg. No other movement.

Experiment No. III., *June 26th.*—The cranium was removed, on both sides, for a space about five centimetres long by one and a half to two centimetres wide; the dura mater being at first left in place.

Application of Electrodes to the Dura Mater.—With the battery composed of eight cells the electrodes were applied all over the exposed outer surface of the dura mater on the left side, at intervals of three millimetres, without producing any visible effect. But, on increasing the battery to sixteen cells and again applying the electrodes at a point in the posterior part and close to the outer edge of the exposed surface, there was produced, ten times in succession, distinct twitching of the subcutaneous muscles on the same side of the head, between the ear and the eye. No effect elsewhere.

The battery being reduced to eight cells and the electrodes applied to the dura mater on the right side, in the posterior part of the exposed surface, the application produced, eleven times in succession, twitching of the orbicularis oculi on the same side. No other motion. The same effect was produced, three times in succession, by applying the electrodes to a point in the anterior part of the exposed surface of the dura mater. No effect elsewhere.

The battery being again increased to sixteen cells, application of the electrodes at a point in the anterior and lateral part of the exposed surface of the dura mater, on the right side, produced very slight flexion of the head on the neck in the median line, with simultaneous slight flexion of the opposite (left) fore-leg. As nearly as could be judged, this point was situated immediately over that part of the brain where similar motions are produced by direct application of the electrodes to the cerebral surface.

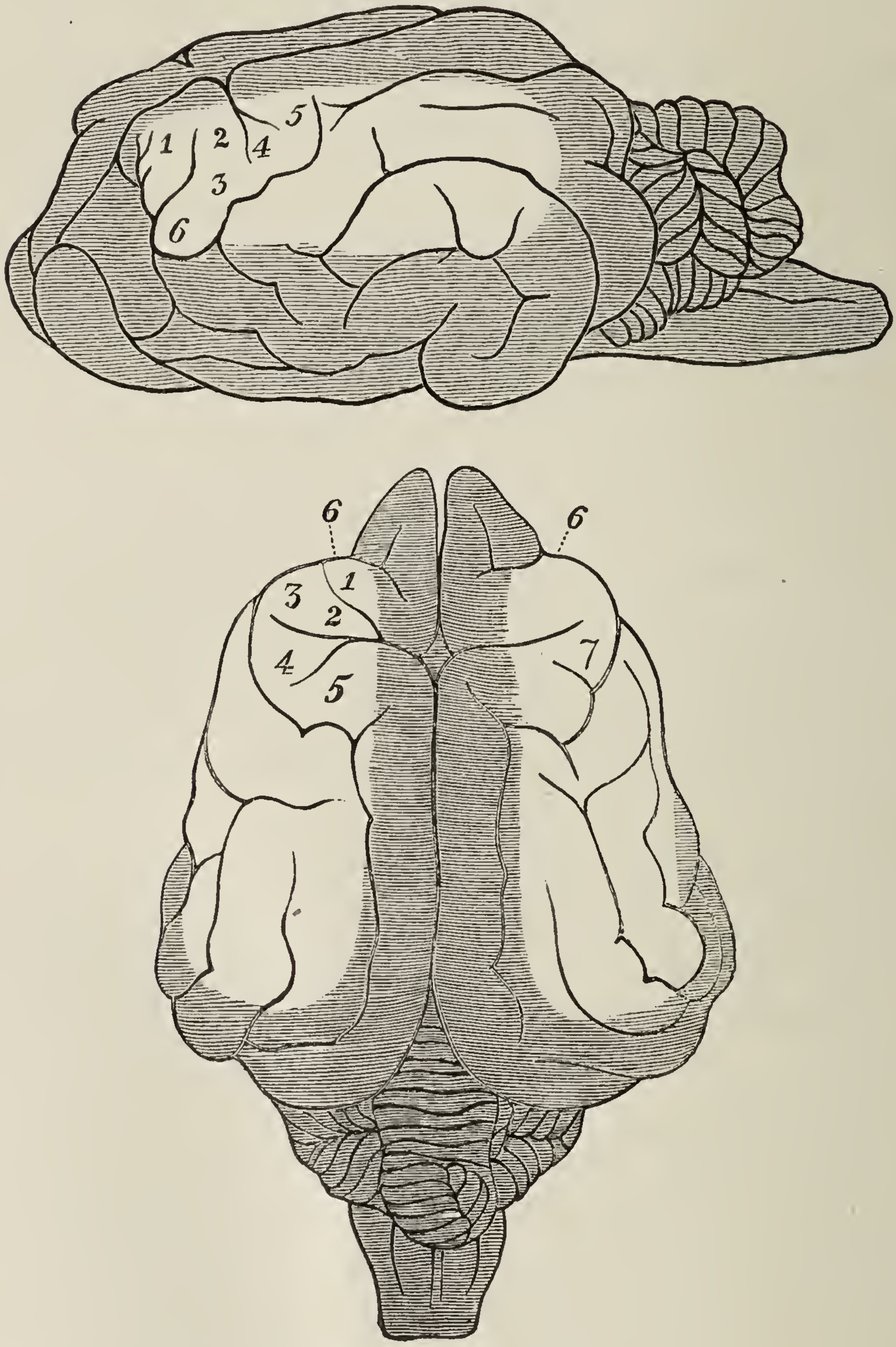
Application of Electrodes to the Brain on the Left Side.—The dura mater was then removed on the left side. With the battery composed of eight cells, application of the electrodes to point No. 1, at the most anterior visible part of the præ-frontal convolution, produced ten times, distinct flexion of the head on the neck in the median line, without any other motion.

The animal having been profoundly narcotized by a fresh administration of ether, application of the electrodes, ten times in succession to the points 2, 3, and 4, situated a little farther outward and backward from No. 1, produced no effect, excepting once slight extension of the fore-leg on the same side at point No. 2. The battery was at once increased to sixteen cells, and the electrodes again applied, ten times in succession, to point No. 1, without producing any visible effect.

The animal was then allowed to remain quiet for a few moments; after which application of the electrodes to point No. 4 produced, ten times in succession, extension of the opposite fore-leg, accompanied once by simultaneous extension of the opposite hind-leg. No other movement.

The battery was reduced to eight cells, the animal having become less deeply narcotized. Application of the electrodes to point No. 5, in the back part of the post-frontal convolution, produced eight times flexion of opposite hind-leg only; but on increasing the battery to sixteen cells, application of the electrodes to the same spot produced again flexion of the opposite hind-leg, with a confused movement of all the other limbs.

Experiment No. III.



1. Flexion of head on neck, in the median line, ten times.
2. Slight extension of fore-leg, on the same side, once.
3. No effect.
4. Extension of opposite fore-leg, ten times; accompanied once by extension of opposite hind-leg. Flexion of opposite hind-paw only, five times.

6, 6. Flexion of head on neck, with rotation toward the side of the stimulus.

7. Flexion of opposite hind-paw only, ten times.

The animal was again thoroughly etherized, and the electrodes applied, ten times in succession, to point No. 5, without any effect. Then the application made at point No. 4

produced, five times in succession, distinct momentary flexion of the opposite hind-paw alone.

The electrodes were then applied to all the remaining posterior and lateral exposed surface of the brain, on the left side, without visible effect.

Effect of Galvanization on the Dura Mater as compared with that on the Brain.—A small triangular portion of the dura mater having been accidentally left in place, at the posterior and inner angle of the opening in the skull, the electrodes were applied to its outer surface. The application produced a shrinking movement of depression of the shoulder on the same side, without any other motion. But, when the application was made to the exposed surface of the brain, immediately beside the cut edge of this part of the dura mater, it produced no effect. The applications were thus made alternately, to the dura mater and to the brain, ten times to each, in immediate succession, always with the foregoing result.

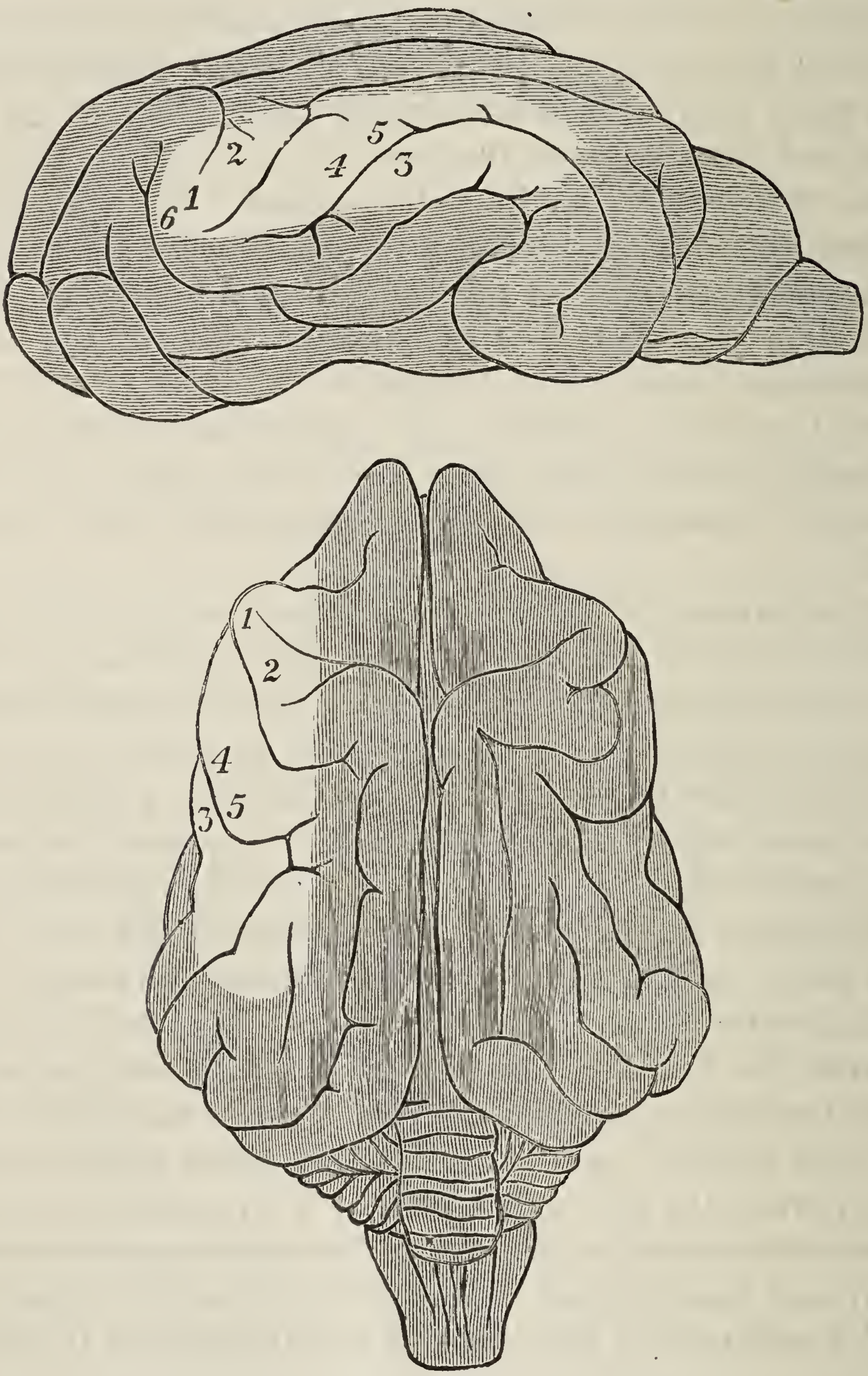
Application of Electrodes to the Brain on the Right Side.—The dura mater was then removed on the right side. With the battery composed of sixteen cells, and the animal deeply etherized, application of the electrodes at point No. 7, just behind the outer extremity of the frontal fissure, produced, ten times in succession, distinct flexion of the opposite hind-paw. The application, made to two spots, situated respectively five millimetres in front and five millimetres outside of this point, from five to ten times in succession, produced no effect.

Application of the electrodes on both right and left sides, to points No. 6, situated far downward on the anterior aspect of the hemisphere, produced, several times in succession, flexion of the head on the neck, with simultaneous rotation of the head toward the side galvanized, as if by contraction of the opposite sterno-mastoid muscles. These movements were very steady and uniform, and less sudden in character than those usually produced in the limbs by galvanization of the brain-surface.

Experiment No. IV., *July 7th.*—In this experiment, the brain was exposed on the left side only. The exposed portion occupied a space about five and a half centimetres long by one and three-quarters centimetre wide.

Application of Electrodes to the Left Side of the Brain.—With the battery composed of eight cells, and the animal deeply etherized, the electrodes were applied all over the exposed cerebral surface, without effect.

Experiment No. IV.



1. Flexion of opposite fore-leg, ten times; accompanied twice with flexion of opposite hind-leg.
2. Flexion of opposite hind-leg only.
3, 4., 5. Contraction of orbicularis oculi on the opposite side, twenty-five times.

The battery was then increased to sixteen cells, when application of the electrodes to point No. 6, situated as in the preceding experiment, produced twice slight flexion of the head on the neck; but three subsequent applications to the same spot, immediately afterward, produced no effect.

A few moments later, application of the electrodes to point No. 1, just beyond the outer extremity of the frontal fissure, produced, ten times in succession, flexion of the opposite fore-leg, accompanied twice with flexion of the opposite hind-leg. No other motion. Application of the electrodes to point No. 2, situated about five millimetres farther backward and inward, produced, several times in succession, distinct and sometimes forcible flexion of the opposite hind-leg only.

The electrodes were then applied to a region on the lateral surface of the brain, near to and on both sides of the supra-Sylvian fissure, at points Nos. 3, 4, and 5. The application produced, twenty-five times in succession, well-marked contraction of the orbicularis oculi, and drawing of the external angle of the eye downward and outward, on the opposite side of the head. No other motion.

The electrodes were then applied all over the remainder of the exposed cerebral surface, without producing any effect outside the points designated.

Experiment No. V., *July 9th.*—The left side of the brain was exposed for a space about four and a half centimetres long by one and a half to two centimetres wide.

Application of Electrodes to the Left Side of the Brain.—With the battery composed of eight cells, and the animal deeply etherized, the electrodes were applied all over the exposed cerebral surface without visible effect.

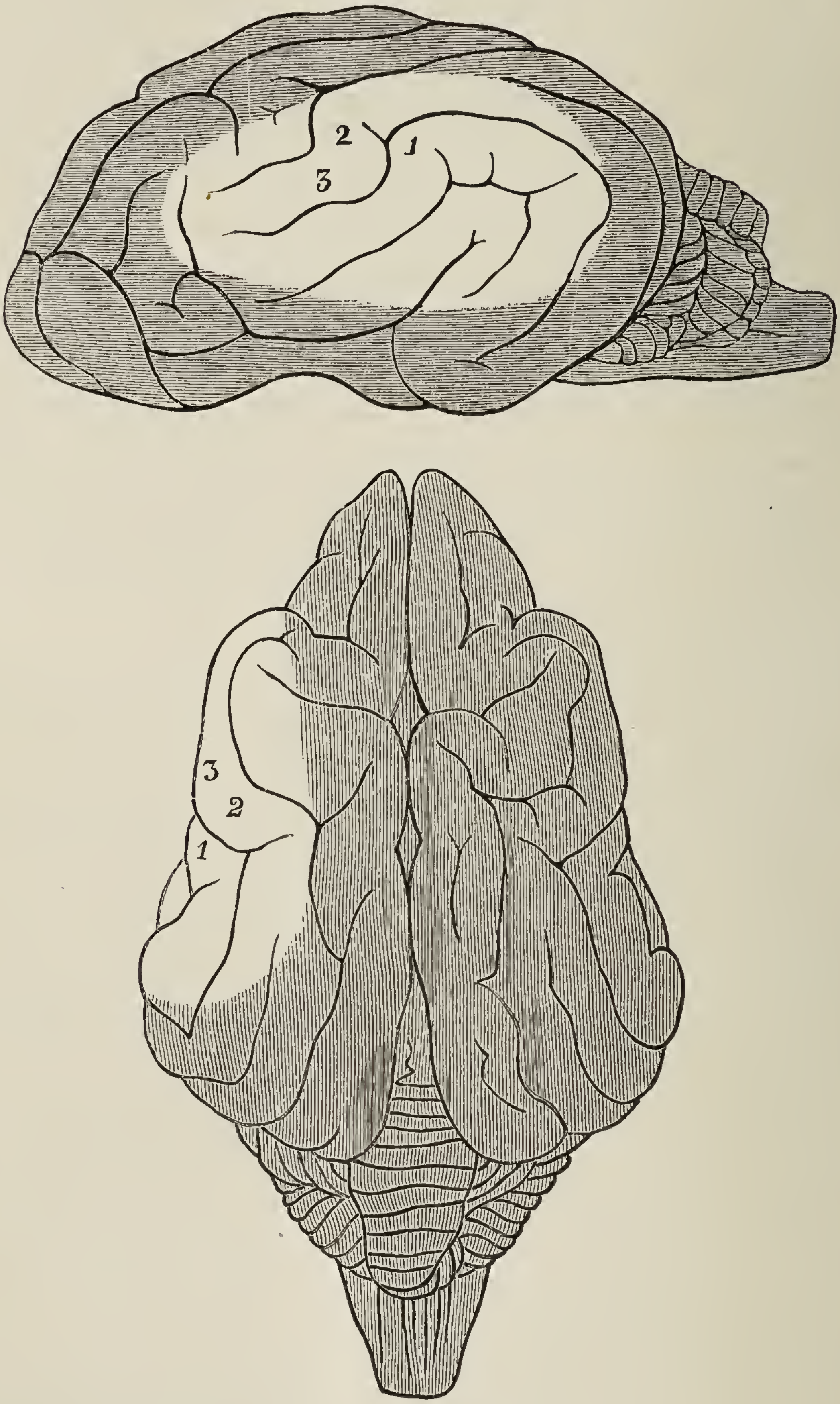
The battery was then increased to sixteen cells; when application of the electrodes to point No. 1, about the middle and lateral part of the exposed surface and just outside the supra-Sylvian fissure, produced, ten times in succession, immediate and distinct contraction of the orbicularis oculi on the opposite side. No other motion.

The electrodes were then immediately applied, ten times in succession, to a point situated seven millimetres farther outward, without producing any effect.

Then they were reapplied, ten times in succession, to point No. 1, each time with the former result.

They were then applied to a point situated seven millimetres directly backward from No. 1, ten times in succession, without any visible effect.

Experiment No. V.



1. Contraction of orbicularis oculi on opposite side, forty times.
2, 3. Same effect as at point No. 1, but less frequently repeated; sometimes two similar contractions produced in quick succession.

Then again immediately reapplied to point No. 1, ten times, each time with the former result.

Then they were applied to points Nos. 2 and 3, situated five to seven millimetres farther forward and inward, on the other side of the supra-Sylvian fissure, ten times to each, nearly always producing contraction of the orbicularis oculi on the opposite side, sometimes with a rapid double contraction for each application. No other movement.

Then they were applied all over the remainder of the exposed cerebral surface without visible effect.

Finally, they were again reapplied, ten times, to point No. 1, each time with the former result, namely, contraction of the orbicularis oculi on the opposite side.

It will be seen that the observations of the Committee confirm the most important of the results obtained by Hitzig and those who have followed him in this line of experiment. There is no doubt that there are certain limited spots upon the surface of the cerebral convolutions which, when subjected, in the etherized animal, to a weak galvanic current, will cause distinct momentary contraction of separate muscles, or groups of muscles, on the opposite side of the body.

The same galvanic stimulus, applied to other points, not more than five millimetres distant, will be entirely without effect; and, when reapplied to the former spot, will again produce the same contractions as before.

The number of the repetitions of particular contractions following galvanization of particular points leaves no question as to the reality of the connection between them.

In repeated instances, corresponding points upon the right and left sides of the brain act experimentally as centres of motion for similar groups of muscles on the left and right sides of the body. We cannot say that in all cases this bilateral correspondence of the cerebral centres of motion is complete; although it may be so in reality, since the two sides of the brain in the dog are never exactly symmetrical, as regards either the fissures or the convolutions.

The action of the cerebral convolutions in producing muscular contraction, when this contraction is definite and limited, is always a crossed action; galvanization of the convolutions on either side of the brain exciting movement in the muscles, both of the limbs and face, on the opposite side of the body.

Galvanization of the dura mater, or other sensitive parts, produces on the contrary, by reflex action, muscular twitching on the same side of the body.

This is especially illustrated in Experiment No. III., where the dura mater being exposed but unopened, application of the electrodes to its exterior surface produced, twenty-four times, muscular twitchings on the corresponding sides only; namely, ten times on the left, and fourteen times on the right.

But, after the dura mater had been removed, application of the electrodes to the surface of the convolutions, in the same experiment, produced, thirty-two times, distinct muscular contraction on the opposite side of the body alone; while once only it was followed by a slight contraction on the same side.

In the same experiment, application of the electrodes to a small part of the dura mater left at a corner of the wound produced a distinct depression of the shoulder on the same side, while their application to the cerebral surface immediately adjacent was without effect; this result being obtained invariably in twenty applications, made alternately to the dura mater and to the brain.

If we compare the total results of all the experiments, the preponderance of crossed action in galvanization of the brain becomes very manifest. Fifteen different points of the cerebral surface, when galvanized, excited distinct movement on the opposite side of the body one hundred and sixty-nine times; two points excited slight movements on the same side with themselves four times only.

Among these instances is not counted that of a special point which usually excited a flexion of the head and neck in the median line; both sets of the muscles, right and left, being either called into action harmoniously, or else each one having the power to flex the head without deviating it toward the opposite side.

All the centres of motion for the anterior and posterior limbs are situated in the convolution immediately surrounding the frontal fissure. This fissure, which is well marked in the dog and other carnivorous animals, is a nearly transverse furrow running outward from the great longitudinal fissure, and situated at about the junction of the middle and anterior thirds of the brain, as viewed from above. The centres for flexion and extension of the anterior and posterior limbs the Committee have always found in the external part of the præ-frontal convolution, just anterior to this fissure, and in the post-frontal convolution just behind it. In a majority of cases those for the anterior limbs were situated more in front, near the outer extremity of the frontal fissure, and those for the posterior limbs more posteriorly and inward, but their exact position varied somewhat in different cases. The centre for flexion of the head and neck in the median line is in the lateral and anterior part of the præ-frontal convolution, where it bends downward and outward; that for flexion of the head with rotation toward the side of the stimulus is in a part of the convolution situated still farther toward the front and downward, so as to be invisible in a view of the brain taken from above. The centre for the facial muscles is in a region situated on the lateral part of the hemisphere, immediately about the supra-Sylvian fissure.

These localities, as found by the Committee, correspond in nearly all essential particulars with those given by Hitzig, and in some instances their identity was complete. This fact is of much value as testifying to the genuineness of the results in both cases—since the spots experimentally found to be centres of motion were all marked, as above stated, by the insertion of needles before killing the animal; but their location upon the hemispheres, and consequently their correspondence with those discovered by Hitzig, could never be seen until after the brain had been removed from the cranium.

With regard to the separate points for flexion and extension of the anterior and posterior limbs respectively, the Committee are unable to fix these points more precisely from the results of their experiments. In some cases they varied in position more or less in different animals; and in some a single application of the electrodes would produce movement in more than one set of muscles. It is not possible, therefore, for the Committee to indicate an exact or invariable locality for the centres of motion, by reference to the fissures or convolutions; but they are led to the conclusion that these centres exist, and that, when the galvanization happens to be applied only to the spot which they occupy, they will produce movements peculiar to themselves.

Thus, in the experiments detailed above, sixty-four applications of the electrodes produced flexion in one limb only, and fourteen applications produced extension in one limb only; making seventy-eight isolated movements. In twelve cases there was flexion or extension of both limbs simultaneously, and in eleven cases flexion of one limb, accompanied by extension of the other; making in all twenty-three double movements of the limbs. That is, more than three-quarters of all these movements were isolated movements of flexion or extension of a single limb.

It is evident that a variety of circumstances influence the results of galvanizing the cerebral convolutions. On several occasions the contractions produced in an opposite limb seemed to increase in intensity with the repetition of the stimulus at short intervals. A deeply etherized condition of the animal, on the other hand, will sometimes suspend altogether the phenomena of movement, which were well marked a short time before; and these phenomena may reappear after an interval of repose.

A weak galvanic current from eight cells, applied to a particular spot, may cause distinct movement in one of the opposite limbs only; while a stronger current from sixteen cells, applied to the same spot, may produce a confused motion in all the limbs at once.

Art. II.—*Ichthyosis of the Tongue and Vulva.* By Robert F. Weir, M. D., Surgeon to Roosevelt Hospital, etc.[1]

Ichthyosis of the tongue was first clearly brought to the attention of the profession in 1861, by Mr. James Hulke, of the Middlesex Hospital, London, in a short description published in the *Medical Times and Gazette*, for November of that year, and subsequently before the Royal Medical and Chirurgical Society, in February, 1865,[2] he narrated the case more at length. It was as follows: "A man aged sixty-one, who never had had syphilis, and was perfectly healthy, presented himself, with a circular, mushroom-like wart on the dorsum of the tongue, to the left of the median line. This was three-quarters of an inch in diameter, having a slightly constricted base, and a surface dotted over with red papillæ. The mucous membrane around this wart was perfectly natural, but at a short distance from this, and on the same side of the tongue, near its apex, the normal mucous membrane was replaced by an opaque, yellowish-white patch, resembling sodden kid-leather. It was quite insensible to the touch, was a line and a half in thickness, and the man stated that he was in the habit of paring it down with a razor when it was inconveniently thick. Mr. Hulke cut off the wart and a portion of this leathery patch. Under the microscope, the wart was composed of colossal papillæ, and the leather-like patch, entirely of epithelium, the deepest cells of which were transparent and natural; the superficial ones, granular and opaque, and, on the free surface, felted into dense, opaque masses."

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[1] Read before the New York Academy of Medicine, January 21, 1875.

[2] *Medical Times and Gazette*, March 11, 1865.

The attention thus aroused was much enhanced at the same meeting, by the statement made by Paget, concerning the development of a case of the same disease, of ten or twelve years' duration, into epithelioma, after the patient had been under his observation for about a month. Hulke reported a second case, his first, however, that had resulted in epithelioma, in October, 1868, before the Clinical Society of London.[1] It occurred in an athletic fireman, forty-three years of age, upon the middle of whose tongue, on its upper surface, was an oblong, yellowish-white, leathery patch about a line and a half thick at its centre, but thinner toward the left side of the tongue, where it was not unlike the thinnest kid-leather. A little behind the left corner of this patch was a more prominent round spot, of the same kind, about one-half a line broad. The patches were accurately circumscribed, the underlying muscular tissue was not indurated, and no enlarged glands were perceptible. He said that, twelve or fourteen years ago, the skin on the back of his tongue began to thicken, and a raised patch was formed there, which slowly grew thicker and larger, until it became so inconvenient that he frequently shaved it down with a razor. He denied syphilis, and no traces of it could be found. The smaller patch was cut off, and the wound healed quickly. It was found to consist of the natural elements of the mucous membrane, greatly hypertrophied. The papillæ and their epithelial sheaths were both involved. He was seen three years later, and further portions removed. Three and a half years after, he returned with an ulcerating epithelioma on the tongue, near the tip. The tongue was removed.

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[1] "Clinical Society Reports," vol. ii.

In commenting on this case, he says: "This affection of the tongue, to which the name ichthyosis is provisionally given, consists essentially in hypertrophy of the epithelial and papillary elements of the glossal mucous membrane, corresponding to that which, in the skin, dermatologists have long known by the same name. It is characterized by tough, white, raised patches on the surface of the tongue; their color is not unlike that of a fine film of boiled white of egg, or wet kid-leather, and they are clinically distinguishable from syphilitic condylomata by their thick epithelium, and by their wide superficial extent; and from syphilitic nodes and cancerous tumors, by their restriction to the mucosa, by their exact circumscription, by the natural softness of the underlying muscular tissue (showing the absence of infiltration), and by the absence of ulceration and of infection of the lymphatics."

So strongly was he impressed with this development of ichthyosis of the tongue, that in 1873, in a lecture on the "Conditioning Circumstances attending the Evolution of Cancer,"[1] he gives it as one of the causes of cancer, citing another case, of John C., aged fifty, admitted into Middlesex Hospital with a central, trough-like ulcer on the upper surface of the left half of the tongue, with ragged and indurated edges. On the other half of the tongue were seen several tough, whitish and buff-colored patches, slightly elevated, and surrounded by healthy and supple mucous membrane. The patient had had these patches many years. Microscopically these patches were found to be outgrowths of the epithelial and papillary tissues. In addition to this case, and the one given above, he had seen three others, terminating similarly, which, with Paget's, made then a total of six cases, in which chronic, simple *plaques* were the precursors of epithelioma.

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[1] *Medical Times and Gazette*, February 8, 1873.

Chronologically, however, the history of this condition of the tongue can be traced farther back, for in a work entitled "A Practical Treatise on Diseases of the Skin," by Samuel Plumbe, published in London, in 1837, the author mentions that he has observed an abnormal development of the papillæ of the tongue in a man in good health, which he regarded as precisely similar in its nature to local ichthyosis of the skin.

In 1858, Buzenet, in a thesis on chancre of the mouth, described the white patches that occurred in the mouths of smokers, which he called *plaques des fumeurs*, and considered them to be due to the effects of the hot smoke and irritating juices derived from the pipe; but Saison, another French observer, in a paper on syphilis of the tongue, spoke of these, but considered them entirely distinct from the *psoriasis buccal*, which was another name for ichthyosis linguæ.

The most important of the early notes of this disease was given by Dr. J. Moore Neligan, in the *Dublin Quarterly*, August, 1862, in connection with the life insurance of a patient who presented himself to him with his tongue and cheeks covered with a thick, white skin, like a kid-glove, and uneven on the surface. It had lasted thirty years, and he had suffered no inconvenience from it. The roof of the mouth, palate, and throat, were free. The tongue was perfectly clean; that is to say, there was no fur on it, nothing that could be removed by scraping or washing. It was of a dead-white color, resembling rather the appearance of the tongue in a boiled calf's-head, than a kid-glove, the lustre of which it wanted. The patient attributed it to the use of a short pipe. Neligan had never seen this condition before, and advised that an extra premium should be charged, to cover the risk, as he stated in his report, of its resulting in cancer. He gave no name to the disease. The patient developed epithelioma four years afterward.

In 1868, McCall Anderson reported a case of psoriasis syphilitica of the tongue.[1] This also terminated in epithelioma.

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[1] *Glasgow Medical Journal*, March, 1868.

It was in this year also that the name *psoriasis buccal* was introduced by Bazin,[1] who described the affection in his work on "Arthritic and Dartrous Cutaneous Affections." This name has since been adhered to by the French school.

The causation of this disease was still further extended by Fairlie Clark, who gave, in his work on "Diseases of the Tongue," in 1873,[2] an account of its following syphilitic ulceration of the tongue, which had been superficially ulcerated, and had healed under the combined use of internal and local remedies. Wherever the latter, such as caustic, had been freely applied by the patient and the surgeons who attended him, there were permanently formed spots of a thin coating, not unlike the rough side of white kid-leather. In some places it was thicker than in others, and it had quite a corny (*sic*) prominence and hardness. He also speaks of several other cases, non-syphilitic. Further on it will be found that not unfrequently ichthyosis was met with in syphilitics, who had had at some previous time lesions of the tongue.

In France, in 1873, Charles Mauriac contributed to the *Union Médicale* of 1873–'74 a series of lectures on the subject of *psoriasis buccal*, giving four cases, afterward augmented to nine, when his paper was issued in pamphlet form, in 1875. It is worthy of note that one of his cases was syphilitic, and cured by anti-syphilitic remedies. This is to be borne in mind in connection with Fairlie Clark's case, and especially with one of the original cases herein reported (Keyes).

Finally, in the *Archives Générale de Médecine* for April and May, 1874, Debove issued an excellent memoir on the subject, giving twenty-four additional cases, some of which will be alluded to hereafter.

These cases, with those presented by H. Morris,[3] three in number, and all terminating in epithelioma, and including those narrated by the gentleman partaking in the resulting discussions in the various societies before whom the papers were read, constitute a total of fifty-eight cases, more or less complete, now before us for consideration.

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[1] "Leçons sur les affections arthritiques et dartreuses," second edition, 1868.

[2] Also in *Lancet*, May 11, 1872.

[3] *British Medical Journal*, February 21, 1874.

I have not included in this figure the sixteen cases reported by Fairlie Clark, in an article read before the Medical and Surgical Society, in March, 1874,[1] for no details are given of them; they are consequently useless, at present, for statistical purposes.

To these fifty-eight cases can now be added the cases that have either come under my own observation, or have been kindly furnished me by my professional friends.

They are ten in number—two in women—and in one of these the vulva was affected, the first case, as far as I know, that has been observed:

Case I.—A gentleman, aged forty-one, of good health, but occasionally dyspeptic, who had never used tobacco, nor had syphilis, consulted me August 6, 1874, for an affection of the tongue, which had lasted about eighteen months, and which gave him no inconvenience whatever. On inspection, the tongue showed, on each side, well back on the dorsum, and stretching inward from the edges to the distance of half an inch, a pearly-white patch, each a little over an inch long; they were irregular in outline, mottled, being apparently thicker in spots than in others, and very slighly raised above the surrounding healthy mucous membrane. They were somewhat less sensitive than normal, and, on being pinched between the fingers, felt like softened parchment. There was another small patch a quarter of an inch in diameter, on the tip of the left half of the tongue, possessing similar characteristics. There was no glandular enlargement. Has never had any skin-disease, and is only annoyed by seeing them.

He was put on arsenic, with but little hope of its effecting good. He was, however, seen within the past three days, with a view of obtaining a photograph of the disease to accompany this paper, when it was found that the patches had evidently much thinned, and in spots the red papillæ could be seen shining through. He informed me, however, that they, prior to treatment, would sensibly alter from time to time.

Case II.—A man, aged fifty, who was admitted to St. Luke's Hospital, June 25, 1872, with a warty, tuberose condition of the tongue, involving its dorsal portion, and stretching from the tip to near the circumvallate papillæ, and transversely to within a quarter of an inch of the edge on each side. It bled readily, and, in brief, on section of one of the irregular masses, it was found, microscopically, to present the characters of epithelioma. He stated that seven years ago he had noticed, for several months, a small white patch, distinctly circumscribed, on the right side of the tongue, near the apex, and close to where his pipe rested when smoking. An ulcer subsequently formed there, and, as he had had syphilis, he was put upon specific treatment. Not being relieved, he underwent an operation for its removal, in one of the London hospitals, about three years since. It reappeared one year after, and slowly assumed its present aspect. The mass was removed, subsequently, by the use of scissors, etc., the galvano-cautery having failed in its application. The patient, I would remark, died shortly after from an abscess of the lung—from the inhalation of blood at the time of the operation.

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[1] *Medical Times and Gazette*, March 21, 1874.

Case III. possesses unusual interest, as it is thought to be the only case yet reported of the disease attacking the vulva. It occurred in a single woman, of gaunt, spare habit, aged sixty-one, who was admitted to St. Luke's Hospital during my term of service in 1869, with the history of intense pruritus vulvæ running back for many years. She stated that she had had the latter since the age of sixteen; that many things had been tried and failed; that to obtain relief she had used opiates, at first in moderate quantities, but now requiring ten to twelve grains of morphine daily to quiet her. So severe had been her sufferings, that she underwent an operation for the removal by excision and galvano-cauterization of the mucous membrane, covering the labia minora, with but moderate temporary benefit.

On examination, the vulva was found to be extremely sensitive; vaginismus was also encountered, but forced introduction of the speculum showed the parts beyond healthy, the uterus being the subject of senile atrophy. Starting from the fourchette, and running upward, nearly covering each labia minora, and merging insensibly into the normal mucous membrane, was a long, irregular patch of a pearly-blue color, covered by a tenacious secretion of the same color which could be partly wiped off, showing thin, minute islands, some circular, some irregular in shape, through which the reddened subjacent tissue was seen. The adjacent labia majora were also slightly involved. These opaque patches, or rather patch (for it was all one), were appreciably thickened, and very sensitive to the touch. The follicles of the vulva were in many places enlarged and prominent. A variety of local applications were tried without avail, and she left the hospital, to return in 1870, within eighteen months, with well-marked epithelioma of the vulva, which part was afterward removed *en masse* by Dr. Gurdon Buck.

While it is acknowledged that the diagnosis of ichthyosis is made retrospectively, yet its characters are now so plain that I feel justified in recording it here.

At the time of the first operation, which was performed at the clinic of the College of Physicians and Surgeons of this city, Dr. Thomas observed a thick, cheesy, cream-colored covering of the labia minora which could not be entirely removed by wiping or scraping. The odor was offensive. The vulva was not swollen, though studded over by prominent follicles. Dr. Thomas pronounced it follicular vulvitis, but considered it unique and was not astonished to learn of its subsequent development into epithelioma. The early history of the case is to be found in the *American Journal of Obstetrics* for May, 1869.

I am indebted for Cases IV., V., and VI., to Dr. E. L. Keyes, of this city.

Case IV. was one of ichthyosis occurring during the outbreak of syphilis, apparently due to this disease, and cured by specific treatment. Its rarity renders it extremely interesting.

It was of a man, seen in 1873, aged twenty-one, unmarried, a syphilitic, the central lesion being a small papular unindurated chancre followed by light roseola. Treatment was much neglected by the patient; he had shortly after sore throat, numerous patches, etc. One year after the roseola a scaly syphilide appeared, which was generally distributed over the body, and for which he was duly treated, causing the subsidence of the eruption. But during this time he became very cachectic, and, while thus, the whole dorsum of the tongue became elevated, of a yellowish, mother-of-pearl white color; mottled deeper in rounded spots, thickened, dry, and without ulceration.

At the edges the epithelium grew out in triangular masses between the teeth, where less pressure occurred. When these masses were caught up by the forceps, they escaped with a cartilaginous sensation. No mucous patch or sore-thoat was present.

The tongue was restored to its normal condition and has since remained so, by the addition to the treatment of local fumigations of calomel; that is, directed on the tongue as well as inhaled.

Case V. occurred in a man aged forty-five, who in 1874 was seen for another disorder, but showed as a curiosity, as it gave him no annoyance, a white patch about three-fourths of an inch long by one-fourth wide, on the floor of the mouth in the region of the frænum, and which was brought into view by strongly raising up the tongue. It was of a brilliant white color like white paint, with slightly irregular outline. It was about one millimetre in thickness, painless, somewhat mammillated, and the adjacent and subjacent tissues were perfectly natural and soft.

It had existed for several years. Dr. Keyes removed a piece of it, cutting into the subjacent tissues, which bled freely. Microscopically it was found to consist of an imbrication of the natural cells of the surface epithelium constituting a horny, compact layer; the individual cells were, however, more granular than usual. No nests of epithelium were to be seen.

Case VI. consists of a case seen by Dr. Keyes when in Paris at Hardy's clinic for skin-diseases, in a man sixty-five years of age, who was affected with general simple non-syphilitic psoriasis. A whitened strip about half an inch wide, and but slightly elevated, was seen crossing the dorsum of the tongue obliquely to its long axis. It was considered by Hardy as a part of the general eruption, and disappeared with it.

Case VII. was sent to me by Dr. Piffard, and illustrates that form known sometimes as the smoker's patch. A man of thirty-five, a smoker of cigars, and a syphilitic, had on the inner surface of both cheeks, just posterior to the labial commissure, a small, white mammillated patch, each about half an inch in diameter. They had existed for ten years, and were only sensitive when irritating substances came in contact with them.

Case VIII., presented by the kindness of Dr. F. R. Sturges.—A man, aged thirty years, consulted Dr. Sturges in 1870 relative to his eligibility for life insurance, showing his tongue, which was marked by a broad stripe extending from tip to base, about one inch and a quarter wide, but leaving the edge free. This was of a white color, glistening like a grayling's back or the belly of a fish just out of the water. On seeing it Dr. Sturges asked him if he had been touching his tongue with nitrate of silver. The patient stated that he had had it for ten years, prior to contracting syphilis. No abnormal sensations were complained of.

Cases IX. and X., concluding the list, were courteously placed at my disposal by Dr. R. W. Taylor.

Case IX.—J. McP., aged thirty-nine, Scotch; never had syphilis; when twenty-three he had gonorrhœa; never had any cutaneous rash. In New Mexico he suffered from fever and ague. Being in the trading business, particularly of cattle, he was in the habit of smoking the whole day, without any intermission of length. He said that he smoked twenty or thirty cigars daily. He ate pungent condiments, and drank whiskey freely. Patient came under my observation August 4, 1874. Upon examination of his mouth, I found the following appearances: The tongue is very materially thickened in a vertical direction. Its dorsum is of a dirty pearl-color. At the middle it is almost brown, and at the edges it is of a pearly tint. There are several deep furrows in the longitudinal direction, which are intersected by others more shallow, running transversely. By these the tongue is mapped out into about ten patches. When the organ is pushed out and drawn in, it is observed to be less supple and flexible than normal. At the extreme posterior portion upon which the circumvallate papillæ are seated, the mucous membrane is not very much altered, being only slightly thickened. An examination of one of the deeper furrows and of the quadrangular patches shows the mucous membrane to be thickened to fully four times its normal size. The surface is quite smooth, and the normal mammillation is lost. The finger does not experience roughness when passed over the tongue. If one attempts to take up a fold of the organ, which is quite large and broad, it is found that the mucous membrane is so firm that the action cannot be accomplished. With a pair of forceps the dense structure of the membrane is better determined, and such sensation of firmness is felt almost as if one were to pinch up the hide of a dressed pig, whose hairs are removed by scalding. The sensibility is much lowered, and manipulation with the forceps is well borne. If slightly scarified, one of the patches appears very tough, and it is with considerable effort that a very delicate thin bistoury goes through the membrane. In consequence of the rigid condition of the tongue, the fissures sometimes become ulcerated and give great pain. It was for this condition and gastric disorder that he came to me. Upon the sides the tongue is very rough, there being vertical lines furrowed in its whole length. The mucous membrane here is not much thickened. Upon the under surface there are no abnormities of the membrane. The mucous membrane of the cheeks, particularly near the commissures, is very much thickened, and owing to pressure against the teeth there are vertical lines of tissue, which are somewhat elevated. These are permanent. The thickening is gradually lost about opposite the last molar tooth. My treatment was at first to ameliorate the rhagades of the tongue. Thus, they were gently touched with a solution of nitrate of silver (120 grains to the ounce), and the mouth was rinsed often during the day with a solution of borax and tincture of myrrh in water. The patient was, however, but a short time under observation.

Case X.—J. O'N., aged twenty-four; Irish; no history of venereal disease, family history not known. When fifteen years of age, the patient had an eruption of psoriasis, which was then mostly localized to the elbows and knees. Being in the army as waiter and soldier, he was not treated, and in the year following he had a more extensive and severe eruption. For several years his body was more or less covered with psoriatic patches. In 1869 he went in a sailing-vessel to Brazil, where he obtained employment as a laborer. His diet there was chiefly of vegetables, and he ate largely of fruit, especially of oranges. In three months, without any medication whatever, his eruption had vanished entirely, and he stated that his skin was without a blemish. Remaining in that country rather more than a year, he was free from psoriasis. Returning in the summer of 1870 to New York, he was well until the month of November, when he noticed a few scaly patches. This time the eruption increased with unusual rapidity, and when, in January, 1871, he came to me for treatment, he was really covered with thickened scaly patches. His whole scalp also was involved. He called my attention to the condition of his tongue. The filiform papillæ were very much enlarged, each one being strikingly prominent, and surrounded and capped with a considerable thickness of mucous membrane. The organ was as supple as natural. The lesion seemed to be lost at the back part of the tongue. There was also a decidedly thickened state of the mucous membrane of the cheeks. The color of the tongue was of a pearly blue, while that of the cheeks was less pronounced. If scraped with a knife-blade, large quantities of epithelial scales were obtained. This is a distinct proof that the mucous surfaces may be involved by psoriasis, yet there are those who think this does not occur. Cured by arsenic.

Ichthyosis of the tongue presents itself in other forms. In some cases the patches are nummular, irregularly overriding each other, and in others detached and in flakes, more or less angular, like ichthyosis of the skin. Fissures and furrows are often met with, constituting frequently small ulcers, bleeding readily, and at times such excess of scales is formed that it can be scraped away in masses.

The patches may extend the whole length and breadth of the tongue, on its dorsum and edges, the inferior surface being but rarely affected; the lips, cheeks, gums, and vault of the palate, are likewise the seat of the affection, and in the order named, in frequency; but the fauces and the tongue beyond the circumvallate papillæ are not involved. Usually there is but little impairment of the function of the tongue, though in many instances, from the thickening and cracking, speech and mastication are interfered with. Ptyalism is sometimes met with. In fact, ichthyosis in its early stages causes, as a rule, so little trouble, that it is generally discovered by chance.

The microscopic examination of Hulke's first case showed, it will be recollected, the pearly patch to be composed entirely of cells of epithelium felted into a dense, opaque mass. The results obtained by Debove in two specimens from cases evidently more advanced were, that the epithelial layer was a little thickened, and that the chorion had a thickness four or five times its normal condition, a result due to the presence of dense connective tissue, there being a veritable sclerosis of the mucosa. There were also found a number of leucocytes. At the surface the lingual papillæ had a uniformly mammillated appearance, like the papillæ of the skin. In the deeper parts the fibrous tissue of the chorion penetrated beween the superficial muscular fibres of the tongue, compressing and atrophying them.

From these examinations he considers as essential that there should be: 1. A thickening of the epithelial layer; and, 2. Thickening and sclerosis of the chorion.

Farlie Clarke[1] considered the pathological changes to consist of a chronic inflammation with overgrowth of the papillæ, with loss of power to throw off the effete epithelium, and says: "If a portion of the ichthyotic coating be examined under the microscope, some increase in the thickness of the epithelial layer is seen, some enlargement of the papillæ, and a great development of the *rete mucosum.* Around the bases of the papillæ, and in the submucous and muscular tissues, there is a very abundant nuclear cell-growth. There is also a notable increase in the number and size of the blood-vessels in all parts. When the disease reaches the stage of epithelial cancer, the most striking feature is the development of the rete. It increases enormously at the expense of the papillæ, reducing them, in many instances, to mere threads, and dipping down between them in the form of large club-shaped processes. Toward the termination of some of these processes, the cells may be seen to have assumed a circular arrangement, forming the lamellated capsules or nests of cells that are so characteristic of epithelioma."

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[1] *Medical Times and Gazette*, March 21, 1874.

From these investigations and cases, considerable discussion has arisen concerning the proper title to be given to the disease, the term ichthyosis having been objected to as belonging to a congenital or early-acquired disease, which remains quiescent, and never advances toward malignancy. Clarke, who presents these objections, from the enlargement of the papillæ that he has seen, prefers the term papilloma; but, as that has already been assigned to a class of troubles of which warts are a type and growth, whose bases occupy but small area, he would adopt the term suggested by Ullmann, of tylosis, from the Greek τυλοσ, *tulos*—a callosity. Keratosis has also been suggested, by Tilbury Fox, and, personally, this seems to me to be the most satisfactory name to be used, being in accordance not only with Lebert's views, but also with Hebra's, who places keratosis as the genus, of which ichthyosis, papilloma, etc., are the species, so to speak.

In respect to the word psoriasis, Debove admits that he does not consider it identical with psoriasis of the skin, with which, indeed, it is rarely coincident, being found more commonly associated with limited eczemas, and that it is anatomically different, in that in psoriasis of the skin there are hyperæmia and infiltration of the papillæ, whereas in *psoriasis buccal* there is a sclerosis existing.

Clinically, he has never observed a psoriasis (ichthyosis) of the mucous membrane of the lips, to be continued upon the skin of the face as an ordinary psoriasis.

Another reason, and possessing more weight, is that advanced by Clarke,[1] that the name psoriasis belongs already to a class of cases differing from the one now under consideration. Psoriasis linguæ, he says, properly so called, exists when a patch of mucous membrane has become whitened by hyperæmia and exudation into the epithelial layer, and looks as if lightly penciled with nitrate of silver. This condition soon passes away, and in a few days the patch desquamates, the epithelial layers of the mucosa fall off, and a red, raw surface, studded with permanent papillæ, is left. In a short time the epithelium is reformed. This may again be repeated in the same place, or adjacent to it, and so on. It is a troublesome though not dangerous affection, is much more rare than tylosis (ichthyosis), but it is not an early form of that disease. It is found in middle-aged persons, and is usually, if not always, associated with syphilis.

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[1] *Practitioner*, August, 1874.

In the grand total of sixty-eight cases, it was observed with interest, as bearing on the question of the cure of ichthyosis, that there were but six cases noted as occurring in women; that out of forty-three cases where the age was given, twenty-three occurred after the fortieth year, and but fourteen under that age; and that it had never been met with in children. Taking the former fact as to sex in connection with the statement that the majority of the males had been smokers, and many syphilitic, we probably have a clew, not fully proved, as to the origin of the disease. But too much stress must not be laid upon this, as many had it who did not smoke, and not every one who smokes has it; and, in respect to syphilis, out of forty-three cases, seventeen had syphilis, but quite a number (six) had ichthyosis before contracting syphilis.

An interesting though solitary case is narrated by Debove, where a cook, who was smoking all the time except when asleep or at meals, had developed on the left side of the mouth, near the labial commissure, a patch of this disease, exactly where the heated stem of his short pipe rested. From a single case where ichthyosis existed, with a purulent inflammation of the middle ear, it was thought that irritation of the nervous supply of the tongue, in this case by the chorda tympani, and in others by the fifth pair, might be looked for as a cause.

In addition to these causes, that is, smoking, the arthritic and psoriatic diatheses, and syphilis, remembering, in connection with this latter, that the previous specific lesion of the tongue may so impair its nutrition as to predispose that spot to ichthyosis (Kaposi calls it a "residuum" of syphilis).[1]

It should be mentioned, as analogous to smoking, and acting as a local irritant, that the disease has been met with in glass-blowers, and attributed, by Dr. Andrew Clarke, to their occupation.

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[1] "Syphilis der Haut," iii. Abth., where he gives seven plates, poorly representing this disease, save in one instance (buccal).

The duration of ichthyosis of the tongue and buccal cavity has not yet been fully determined. In the collated cases where details have been given (forty-three in number), it was found that in eight cases the disease had existed more than ten years, and in three cases more than twenty years; and in one of these latter, after a duration of thirty-four years, epithelioma developed itself. In reference to the duration of the disease prior to its transition into cancer, I venture to offer the following merely as an approximate result. It is based upon the consideration of fourteen cases; in one epithelioma showed itself after thirty-four years (just alluded to), two after twenty years, and in seven cases the disease so terminated, in periods ranging from six months to two years:

Out of the sixty-eight cases I find recorded thirty-one cases resulting in epithelioma, which transition occurred in some instances under the surgeon's own observation, so that the point of the conversion of a patch of ichthyosis into epithelioma can no longer be held in doubt, or rather be considered not proved, as it was a short time since.

Not only does the malignancy of the disease show itself in the tongue, but ichthyosis affecting the mucous membrane of the cheeks and lips has each, in one instance, so terminated (Verneuil, Bassereau). Debove gives the uncomfortable opinion that the probabilities of such a conversion are equally great, whether the patch be large or small; it is of course more apt to occur in the tongue.

Is this result, however, to be expected in all the cases? The English authorities generally announce this as the customary ending to be expected, and hence base their treatment upon this opinion. Hulke states that he had tried all kinds of treatment without effect, and that in every instance epithelioma followed. He, with others, therefore, advises that excision should be practised when it is possible, and the part affected is not of too great extent; and in one of his cases, even after this had been done, the disease advanced. In some of the cases there has been reported amelioration by the use of alkali applied to the tongue in spray—by the internal administration of natural waters, such as those of St. Christau, upon which Bazin strongly relies. These cases, with those recorded in this paper, lend support to the view of the author that they are due, or rather that some of them are due, to an arthritic, or, more precisely, to a dartro-arthritic diathesis. Such a view would induce a resort to anti-psoriatic treatment, especially when associated with psoriasis or other disease of the skin.

The case reported on a previous page by Dr. Keyes forces us, I think, to admit also the syphilitic origin of ichthyosis, not as a "residuum" (Kaposi), nor, so to speak, as a cicatrix of a former syphilitic lesion, but as a syphilitic manifestation *per se.* A somewhat similar case is narrated by Mauriac, with the disappearance of the lesion under antisyphilitic treatment. From these cases, and from a third that has only been seen since the first portion of this paper was written, wherein the patch of bluish opacity occupying the anterior half of the tongue had resulted from numerous mucous patches, I should be disposed to suspect syphilis as a cause when the ichthyotic patches were thin, of the color of watery milk, or even bluer, and of but little resistance. The irregular, circular mottling which was present in this case, as well as in Keyes's, with the adherence of the thin and moderately-changed mucous membrane to the subjacent parts, would also be suspicious of syphilis.

Finally, the ichthyoses, including those caused by known irritations, such as the *plaques de fumeurs*, glass-blowing, etc., may be suspected of malign tendencies should they present themselves as well-defined, thick, and snowy-white patches. The tendency to epithelioma is probable in proportion to the increased growth of the epithelium.

Should in the progress of the disease cracks or fissures occur, benefit is derived from lightly touching them with caustics, but no advantage has resulted from the action of escharotics upon the patch itself. The tongue should as far as possible be guarded against all sources of irritation. If any jagged teeth be present they should be smoothed off or removed. Highly-spiced condiments must also be avoided.

Art. III.—*On Certain Morbid Alterations of Mucous Membrane; their Influence on Speech, and their Apparent Relations with Diseased Nerve-Structure.*[1] By Beverley Robinson, M. D., Surgeon to the Manhattan Eye and Ear Hospital, etc.

The majority of medical practitioners of the present day, and some among the specialists in matters of laryngology and laryngoscopy, take it for granted whenever there are evident symptoms of imperfection, hoarseness, or loss of voice, that the true cause of these troubles is to be found within the larnyx itself. Oftentimes they feel assured that we shall find evident localized pathological conditions which sufficiently explain all the resulting morbid phenomena; and, whenever such conditions are not visible, they will be, as it were, embarked upon a sea of doubt, and almost forcibly compelled to seek for refuge in the unsatisfactory haven of hypothesis. Now, although we fully admit that in very many instances abnormal appearances of the vessels, the glands, or of the entire mucous lining of the larynx, infiltration of the sub-mucous tissue which surrounds the laryngeal cartilages, and neoplasms of divers sorts, furnish all the evidence we require to indicate to us the cause of the trouble of speech, still we are equally well aware that among what are termed the nervous affections of the larynx (including those forms of paralysis and spasm of the intrinsic muscles of that organ so clearly and exhaustively described, several years since, by Dr. Morell Mackenzie, of London), there may be found a want of power, without *visible* changes of structure, affecting some particular muscle or muscles, and which is the apparent cause of loss of voice. This loss of approximative power, if it affects the adductor muscles more especially, is shown by the fact that the cords have lost their contractility, in part or wholly, and are not brought fully, or at times even appreciably, toward the median line during the effort of phonation.

The paralysis of the adductors may affect one or both sides of the larynx. On the other hand, there may be want of tonicity in the abductor muscles, and more or less dysphonia may be the result.

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[1] Read before the New York Society of Neurology and Electrology, January 18, 1875.

While, however, loss of contractility in muscular fibre may occasion imperfections of articulate speech, a contrary condition may bring about analogous or like trouble. Excess of action in the laryngeal muscles—spasm as we find it in a most marked degree in laryngismus stridulus—may render the voice high pitched and shrill for a certain lapse of time, or may be able temporarily to abolish the functions of voice altogether.

These affections, where the function of the laryngeal muscles is involved, have been well studied, as we have previously remarked, and much of their pathology and rational treatment is to-day the acquired property of every tyro in laryngoscopy.

It has been shown also that, although many affections of the intrinsic muscles of the larynx are under the dependence of organic lesion, the result of compression of the laryngeal nerves, still there are rare cases where neoplasms of malignant type have produced, by extension to the nerve-tubes, evident alterations in their structure, and, finally, perversion or abolishment of their conductive power.

Syphilis in its later stages has also been found to give rise to exudative deposit, and in subsequent atrophy, or even fatty degeneration of tissue, we readily find the proximate cause of a lack of vitality in the muscles attacked.

Hysteria and allied disorders, though imperfectly understood, have been dwelt upon in a commensurate degree with other causes of dysphonia and aphonia. This is true particularly of women who show to any extent a more than usual nervous type. So, too, we find that certain blood-changes, viz., anæmia, chlorosis, diphtheria (about which little is accurately determined when considered merely in regard to their influence over the function of the vocal cords), are made accountable for what may very properly be termed "vocal asynergia." But, besides the causes of dysphonia which we have mentioned, there are others which have never been studied with sufficient care, in their relations with disordered vocal function or with nerve-changes.

First among these we would comprise some of those varied appearances and conditions which have been designated by the term "catarrh."

In a late discussion before the New York Laryngological Society, Dr. Morris Asch, of this city, objected very properly to the use of this term as applied to very different states of the nasal mucous membrane. Ulcers, vegetations and chronic hypertrophy are frequently met with under the above name. A want of clearness and accurate nosological division is (in our estimation also) shown by the employment of such a manifest misnomer in wholly distinct affections.

This is the more to be regretted, as it certainly has led to much ignorant and mischievous practice.

But, the point to which we wish to draw especial attention in this connection is, the suggestion made to the Society by Dr. Andrew H. Smith, during the discussion which followed Dr. Asch's statement, on the subject of naso-pharyngeal catarrh. Dr. Smith at that time remarked that "the characteristic nasal voice, when persistent, indicated hypertrophy of mucous membrane, and that the thickening of the laminæ of the nose prevented perfect articulation of nasal sounds." Now, we have all observed this nasal tone of the voice, or "twang," as it is oftentimes called in common parlance, and it would appear to be somewhat special to Americans as a race. Foreigners, and more particularly Englishmen, speak laughingly or sarcastically of this national peculiarity. I do not think, however, that they, or we, are generally familiar with its true etiology, inasmuch as I am inclined to the belief that it is usually considered as being due to a faulty or improper use of the laryngeal muscles, or those of the palate, in our effort to produce phonetic sounds. This conviction, though popular, is unfounded in fact, and we feel quite sure that, in the large majority of instances, a nasal intonation of speech is correctly explained by the more or less complete closure of the nasal passages. And this blocking up renders it impossible for a sufficient quantity of air to pass freely through these cavities. Thus the distinct pronunciation of the so-called nasal consonants (*m*, *n*, *p*, *b*, etc.) is made more than difficult.

In the normal condition of the nasal passages, there is a rapid and considerable current of atmospheric air which passes backward and forward through them during every movement of inspiration and expiration. When they are obstructed from any cause, our articulation of certain words becomes thick, or, as it were, muffled and deadened, owing not so much to the fact that we talk in reality through the nose, as simply because, these air-chambers no longer existing except to a very limited extent, the normal resonance is no longer given to those sounds when uttered.

What, then, we desire to impress is, that nasal catarrh of a chronic character leads to, and is in fact characterized by, the so-called nasal sounds, and whenever we encounter this defect of speech we should examine and thoroughly explore the nasal passages, in order to become convinced whether or not hypertrophy of the mucous membrane exists.

The following very remarkable history and drawing we owe to the courtesy of our friend Dr. Lefferts. In this instance the hypertrophy of the mucous membrane covering the inferior turbinated bones was so excessive as to produce *total occlusion* of the posterior nares:[1]

CASE I. *Hypertrophy of the Mucous Membrane covering the Inferior Turbinated Bones.*—T. S., aged twenty-one; painter. The patient states that for years he has suffered from the ordinary symptoms of a *chronic nasal catarrh*, and that during the last four years the most noticeable symptom has been the change in the *voice.* Two years ago the right naris became gradually occluded, and six months later the same condition occurred in the left; the voice at the same time lost all resonance and became *dull* or *deadened.* He has ringing and *noises in the ears*, especially when speaking, but there is *no diminution in the sense of hearing.* He states that at times, when about to speak, he apparently loses control of his voice, and that it requires a certain effort and a clearing of the throat of mucus before it can be regained.

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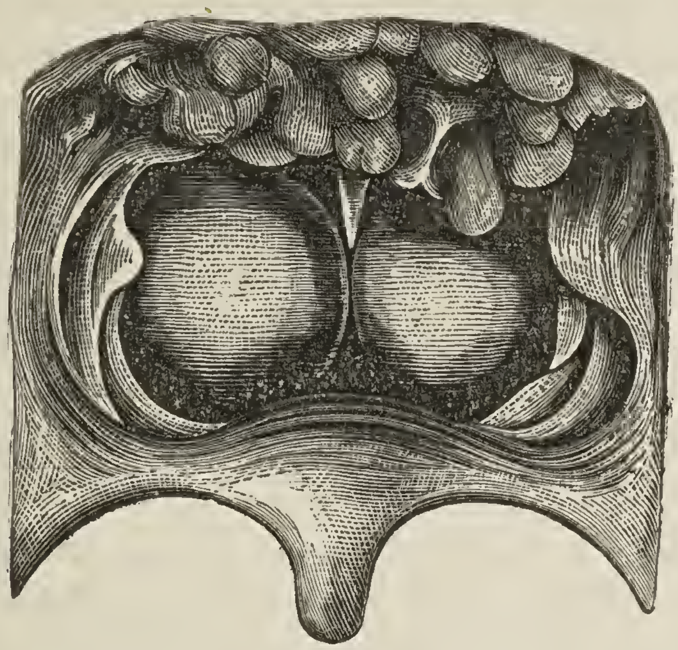
[1] It will be remarked, in the perusal of this case, that the voice was "dull or deadened." As there was "marked adenoid hypertrophy," the cause of this *special* change of voice would be found *altogether* in this presence were the condition of the *inferior turbinated bones* not such as to exaggerate notably this feature of Dr. Lefferts's case.

He complains of restless nights, and of suffering much inconvenience from the occluded state of the nostrils.

Examination shows follicular pharyngitis, moderate hypertrophy of the tonsils, marked *adenoid hypertrophy* at the *vault of the pharynx, and total occlusion of the posterior nares, due to the hypertrophied tissues of the inferior turbinated bones impinging one against the other and occupying the whole posterior nasal space.* Between these masses and above can be seen a small portion of the septum narium. The orifice of the right Eustachian tube is pressed upon and nearly occluded; that of the left is intact.



Tumors of divers sorts, and especially mucous polypi, taking origin in the mucus lining, or bony walls of the nasal fossæ, and filling them up more or less completely, may and do produce this same nasal intonation, but their existence is much less frequent than the condition previously mentioned, and therefore less important, viewed in this aspect. Besides, these neoplasms present features, as a rule, which lead readily to their recognition, whereas simple hypertrophy of the pituitary membrane, to a limited extent at least, may remain ignored for a long period of time, unless special attention be directed toward it as the cause of defective speech.

We shall not enter into details in regard to treatment by the employment of the ordinary atomizer (which is in familiar use) with medicated sprays of the astringent sort, in weaker or stronger solution, and varied a great deal according to fancy, routine, or real or merely supposed efficacy.

When these sprays have been used for a considerable time, with almost if not entirely negative results, we should have recourse to compression by means of laminaria digitata, sponge-tents, or urethral bougies, of the soft variety, or made of metal sufficiently flexible to permit our bending them to any required curve or angle, in the event of our meeting with a deviation of the septum, or with an abnormal conformation of any other portion of the osseous walls of the fossæ. These bougies must, of course, be suited in calibre to the diameter of the choanæ, which will vary in individuals and also in earlier or advanced stages of disease. When compression has led to mere temporary relief, cauterization, by means of the galvano-cautery, and through an ear-speculum or other convenient instrument destined to protect adjacent parts against the action of the heated platinum wire, has been employed with variable success. If such an operation should be deemed too severe, and objected to by the patient—for what, after all, is at times a very supportable and even slight infirmity—recourse may be had to the use of the galvanic current. By its frequent employment during several weeks or months, the parts implicated may be restored to a state of healthy nutrition. Through its influence over some of the peripheral branches of the fifth cranial pair of nerves the absorbents are made to act more energetically; effused serum or plastic deposit is in this way got rid of, and permanent benefit has resulted to the patient.[1]

In some instances, the hypertrophied condition of the pituitary membrane is not considerable; it causes but slight obstruction of the nasal passages, and does not sufficiently account for the nasal sound given to the articulation of certain words.

Under these circumstances the soft palate has frequently participated in the chronic inflammatory changes of the Schneiderian membrane, and has become more or less thickened and infiltrated in its mucous covering and sub-mucous layer. We may then have slight paresis of the muscular fibres which are intrinsic to this organ, and which is the efficient cause of a want of coaptation of its free border with the posterior wall of the pharynx, both in deglutition and in the enunciation of certain words which require for their pure and correct delivery a perfect physiological action of this organ. Is it merely the muscular fibre which is here diseased, compressed, or atrophied, and degenerated, as a normal consequence of contiguous inflammation; or, are the terminal nerve-filaments of the spinal accessory, glosso-pharyngeal, and the branches of the facial which distribute themselves to the glosso-palatin muscles on either side, affected with chronic neuritis?

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[1] In Dr. Lefferts's case the results of treatment are not as yet accomplished.

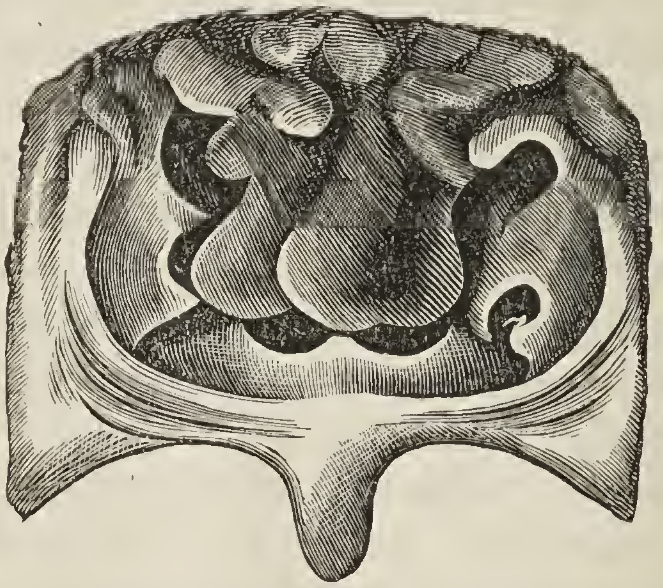
Reasoning by analogy, and according to what we shall determine a little farther on, in considering cases of chronic pharyngitis, we would say that in these cases both explanations may be given, and both are in a measure acceptable, as *true* explanations of a loss of functional power. To substantiate the reality of instances of paralysis of the soft palate following chronic nasal catarrh, we beg leave to cite a case of Dr. Cohen's ("Diseases of the Throat," p. 144). The abstract of this history reads as follows: "A male, thirty-five years of age, had been successfully treated for chronic nasal catarrh, where the mucous membrane of the turbinated bones was much thickened. A portion of the membrane was removed with the forceps, and the local use of salt-water injections adopted. Several months after treatment was interrupted, the patient returned to Dr. Cohen, complaining of dysphagia. In every attempt made to swallow liquids, there was regurgitation through the nose. There was no trouble in swallowing solids. Examination revealed paralysis of the elevator muscles of the palate. Treatment by electricity was employed and after a time the lost powers of deglutition were restored."

The facts to be noted in this case are: 1. The possibility of paralysis of the soft palate following nasal catarrh. 2. Its *début* after cure of the disease for which the patient was originally treated. 3. The good results of an electrical treatment. (In the case just reported, the induced current was brought into requisition.)

There is another defect of speech, occasionally met with, and which differs from the preceding (in uncomplicated cases) in a marked degree; and this is one where *m* and *n* are pronounced as *b* and *d*, viz., instead of the patient saying, when called upon to do so, "common," he will say "cobbod," "sodg" in place of "song." The enunciation of different words is wanting in clearness; the nasal passages have lost their normal resonance and there is a peculiar stuffy, "dead" pronunciation whenever the nasal consonants are sounded.

With this defect of speech we find the patient is prone to complain of a sensation as that of a foreign body in the naso-pharyngeal cavity. There is a great deal of thick, grayish or greenish mucus which constantly trickles down behind the velum. Occasionally the sputa are tinged with blood, especially in the morning. The nose takes a flattened, pinched, contracted form from side to side, and a decidedly broader configuration at its base than is usually met with. This is almost characteristic, and differs at all events very much from the reddened and swollen appearance around the nares and in the interior of the nasal passages which we encounter in chronic cold of this portion of the respiratory tract.

The following abstract of a detailed history, generously given us by Dr. Lefferts, affords a very striking example of this disease in one of its multiple varieties:[1]



"A. W., aged nineteen, suffering from obstruction of nasal passages, associated with progressive deafness. Voice changed; marked deficiency in the nasal sounds, the tones of *m* and *n* resembling those of *b* and *d*. Rhinoscopic mirror exhibited, as shown in the drawing, a most remarkable glandular hypertrophy of the adenoid tissues at the vault of the pharynx."

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[1] The accompanying drawing places us under additional obligation to Dr. Lefferts.

Treatment for four months by all the means usually recommended, without attaining any marked result.

Reduction of the mass finally by means of the posterior pharyngeal forceps, followed immediately by thorough cauterization with solid nitrate of silver.

The affection under consideration, fortunately not very common with us in the United States (at least in its most typical variety), appears to be frequently found in certain countries of Europe, and especially is this true of Denmark, where it has first been thoroughly described by Meyer, of Copenhagen. He treats of the affection under the title of "Adenoid Vegetations," using the term "adenoid" on account of the very great resemblance which exists in point of structure between these vegetations and that of lymphatic glands. There is little doubt, to-day, after the exhaustive researches of Luschka into the normal histological structure of the pharynx, that these so-called adenoid vegetations are formed essentially by an excessive development, or hypertrophy of the glandular tissue, which enters, for a large part, into the normal structure of the posterior wall of the pharynx, and more particularly of the fornix of this organ. These vegetations are of varied consistence and configuration. Sometimes they are hard and resistent; more frequently they are soft and vascular, giving rise to abundant hæmorrhage after rough contact of any sort; or, again, after a paroxysm of coughing or sneezing. They are flattened, hemispherical, cylindrical, fimbriated, or tesselated. They may fill up the entire naso-pharyngeal cavity; or, again, they may be limited to the posterior portion of the vault. Whenever we meet with the symptoms, as first cursorily detailed, the existence of this glandular enlargement of the pharynx should be strongly suspected. In certain cases it may be absolutely affirmed, provided, however, we are quite sure that the affection is uncomplicated; but this is very rarely the case, and chronic infiltration of the mucous lining of the nasal passages is a common cause of error. Nevertheless, if these passages have been successfully treated by divers local applications already, and if they appear to be tolerably free, we are further justified in recurring to our diagnosis of "adenoid masses of the naso-pharyngeal space." We have two methods by which we may recognize these vegetations: 1. Rhinoscopy; 2. Digital exploration. The first of these methods, when it is practicable, is by all means to be made use of. Unfortunately, the obstructed condition of the passages to be investigated—the want of any appreciable space between the posterior margin of the velum and the pharynx—which often exists (making, as we are aware, *rhinoscopy* almost impossible), chronic hypertrophy of the tonsils, and excessive intolerance of the small mirror, which is occasionally present—*all* these difficulties become so great at times, that in reality examination of this kind is utterly fruitless. Digital examination is then our only sure means to arrive at a correct diagnosis. And, with the index-finger of the right hand passed gently behind the velum, we shall generally have that peculiar tactile sensation, almost impossible to describe, which reveals to us in an absolute manner the presence of this hypertrophy of glandular tissue. Injections of astringent solutions behind the velum, or the applications of caustics by means of a brush, sponge, or curved probe, directly to these vegetations, are rarely, if ever, crowned with success. Recourse, in a few cases, may be had to a method of procedure recommended by Meyer, and which consists "in the crushing or scraping off of the tumors as near their base as possible." For this purpose an instrument is used which he thus describes: "It consists, first, of a little ring of a transverse, oval shape, having one edge sharp, although not absolutely cutting, and the other one rounded off; and, secondly, of a slender, stiff, but at the same time flexible stem, bearing the ring at one extremity, fixed into a roughened handle at the other."

We shall now describe, briefly, the operation, employing pretty nearly Meyer's own words: "This instrument is passed, with much delicacy, through the nose, keeping the long axis of the ring perpendicular, and making its blunt edge glide along the septum. The point of the index-finger and the instrument having been made to meet behind the posterior nares, the finger should now press each vegetation separately upward against the ring, while the latter should be moved in a downward direction, so that its sharp edge crushes them off as near their base as possible, the nail or the point of the finger serving as a *point d'appui* for the instrument."

The following case shows the efficacy of this treatment: "I had cleared the obstructed passage," writes Meyer, "through the nose, removed the enlarged tonsils and the swelling of the throat and soft palate, but the manner of *speaking* remained as defective as ever. The patient, a young lady, now underwent a regular course of training in pronunciation, but with no better result." By digital examination, soft masses were recognized as almost entirely filling up the naso-pharyngeal cavity. These growths were removed by the operation cursorily described above, and "the result was most satisfactory; the voice became clear almost immediately, and the patient was able to breathe freely through the nose." Eighteen months after the operation the patient was still enjoying good health, "both as to speech and hearing."

In a certain number of cases Meyer's operation is unsuccessful in a measure, for it is found to be impossible to remove, after this method, all traces of vegetations from the naso-pharyngeal cavity. Under these circumstances we would do well to make use of the galvano-cautery. Voltoline, of Breslau, has cured cases of an obstinate and difficult type by means of this instrument. Other practitioners there are who have likewise employed it with marked benefit to their patients. We regret that we have no individual experience to record under this head.[1]

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[1] The *typical* cases described by Meyer are (as we have previously remarked) rarely, if ever, seen by specialists in the United States. For our part we have never seen a single example, though we have made very numerous rhinoscopic examinations in search of them. In those instances where great hypertrophy of glandular tissue was recognized, it existed under the form of solid, adherent masses—not of pendulous vegetations.

ART. IV.—*Raw-Cotton Dressing for Wounds (Pansements à l'Ouate).* By Prof. WM. H. VAN BUREN, M. D. Extract from a Recent Lecture at the Bellevue Hospital Medical College, on the Principles of Surgery.

I CANNOT leave this subject without calling your attention to a novel mode of dressing wounds with raw cotton, which has lately attracted much attention in Paris. I have already spoken of raw cotton as an American remedy in burns, but great advantages are now claimed for it as an application for recent wounds; it is said to protect them from the contact of the poisonous particles which are assumed as everywhere floating in the air as dust. These poisonous particles, in the present state of our knowledge, are supposed to be bacteria, or the spores of some analogous organism, capable of getting into the blood through open wounds, and acting as a ferment, or, at least, of being carriers of poison. So called zymotic diseases, such as pyæmia and erysipelas, which interfere so often with the successful treatment of open wounds, especially in hospitals, are generally believed to owe their origin to this cause. Now, Pasteur, who discovered that putrefactive fermentation was due to the presence and growth of vegetable organisms, and Tyndall, who has experimented largely upon atmospheric dust, had both proved that raw cotton is the most effective filter by which the air can be deprived of these floating particles; that, when forced to pass through its meshes, air is rendered pure, as far as these poisonous particles are concerned. During the winter of 1870–'71, when the hospitals of Paris were crowded with wounded soldiers and Communists, accumulated through the coincidence of the Prussian siege, the civil war, and famine, and when pyæmia was so universally prevalent that an amputation was almost of necessity fatal, this assertion of Pasteur concerning the filtering power of raw cotton occurred to one of the surgeons of the St.-Louis Hospital, Alphonse Guérin, as a possible source of advantage. He forthwith tried it as a dressing on several patients, binding it upon their wounds in liberal quantity, and keeping it accurately applied by firm compression with bandages. To his surprise and delight, he found that the chill, by which the advent of the fatal complication is always heralded, did not occur, and his patients went on to get well. Encouraged by this experiment, he repeated it with equal success; those dressed with raw cotton were found to do well, while others in the same ward died of the prevailing endemic. The result was so remarkable, that surgeons from other hospitals came to St.-Louis to witness the rare sight of patients recovering after amputation, and themselves adopted this mode of dressing wounds. Shortly, the use of raw cotton was systematized as a surgical dressing, and it has since been very generally employed. Desiring to learn the estimation in which it is now held, I sought information from my colleague, Dr. L. A. Stimson, who is at present in Paris, and I find that, although the prevalence of pyæmia has of course very much diminished in the hospitals, the raw-cotton dressing is still regarded favorably. It is claimed by Dr. Guérin, in recent communications to the French Academy (March 23 and May 18, 1874), that, in accordance with Pasteur's assertion, when properly applied, it effectually excludes a recent wound from contact with all poisonous germs—*without entirely excluding air.* He has found pus, in contact with a wound which had not been disturbed for thirty days, perfectly fresh in appearance, and free from odor; it was changed in its anatomical and chemical characteristics, contained no traces of pus-cells, was converted, in short, into an oily emulsion containing large crystals of the fatty acids—showing that oxygen had not been excluded—but it presented no evidences whatever of putrefaction. In his earlier experience he once removed the dressing from two cases, which were doing perfectly well, at the end of a week, and within three days both patients had chills, followed by fatal pyæmia. This led him to adopt the plan of applying the cotton-dressing with great care and precision at first, so that its renewal should not be necessitated until the establishment of a barrier of granulations, or the final healing of the wound. If the discharges saturated the cotton and made their appearance upon the surface of the dressing, additional layers of cotton-wadding were applied over the old dressing without regarding bulk, and, over these, bandages put on with the greatest possible amount of compressing force; for it is found that where the cotton is applied in sufficient quantity, and of good quality, its elasticity renders the compression equable, and that, so far from being a source of danger, the elastic compression is advantageous. After a circular amputation of the thigh, an assistant steadies the stump, while another pulls apart the edges of the divided integument, and the surgeon proceeds to fill the cavity thus presented to him with small masses of cotton torn from the sheet of wadding, small at first and applied accurately to every part of the cut surface, then larger masses as it becomes filled, and then layers of the wadding are applied over and around the stump and upon the hip and pelvis, and over all a spica-bandage put on, with great care, and as much compressing force as possible. No air must come in contact with the wound that has not filtered through the thick mass of cotton. Moreover, this cotton must be of good quality, fresh from the manufactory, and it must not have been exposed to the air of the hospital. Under favorable circumstances he has found it the best plan to leave this dressing in place about two weeks, when the granulating surfaces are usually found ready for approximation for final union, but he never renews a dressing in the foul air of a ward. Tarlatan and collodion straps are preferred to strips of plaster, as more transparent. He *has* obtained *primary* union. Guérin believes, with Lister and Tyndall, that while gases can be introduced into the blood through the lungs, poisonous particles like germs become entangled in the air-passages, and do not as a rule reach the blood by this route. The experiments and deductions bearing on this point are full of interest to the student of surgery, but the point is not as yet definitely settled; for Tyndall himself, in detailing the advantages of using a "cotton-wool respirator," remarks that "it is exceedingly probable that the germs which lodge in the air-passages, or find their way into the stomach with its absorbent system, are those which sow in the body epidemic disease." He adds, "If this be so, then disease can be warded off by carefully-prepared filters of cotton-wool" (*vide* "Dust and Disease," in "Fragments of Science" etc., London, 1871, p. 321, *et seq.*).

It is a curious fact that Lister, the great advocate of the germ-theory of disease, and of carbolic acid as a germ-killer, at one time was actually using raw cotton as a dressing for wounds, on account of its value as a filter, antecedent to its adoption by Guérin; but he afterward abandoned it in favor of his "antiseptic gauze" ("*Pansements à l'Ouate*," par Raoul Hervey, *Archives Générales de Médecine*, December, 1871, *et seq.*). Guerin's advocates say that the Edinburgh surgeon was so preoccupied and absorbed in finding out the best modes of using carbolic acid for the killing of germs, that he failed to recognize the probably greater value of the raw cotton as a filter in the dressing of wounds. It is one of the features of Guérin's mode of dressing, to wash a wound thoroughly with some germ-killing liquid, before applying the cotton; but he seems to attach as much value to weak camphorated spirits as to a solution of carbolic acid, using them indifferently.

In conclusion, it is claimed for this new method of dressing wounds that, besides protection from poisonous germs, it prevents inflammation, by its uniform elastic compression, the equability of temperature, the protection from external injury, and partial immobility which it confers; that it promotes the development and growth of granulations, saves the pain and trouble of frequent dressings, and facilitates the transportation of wounded men. It thus favors the scattering of the wounded after a battle, and for this reason, as well as the simplicity of the materials required, and the ease with which they can be applied, it commends itself to the military surgeon. In civil practice it promises to be useful, principally in the large hospitals of great cities, where pyæmia and erysipelas are always liable to become endemic, in preventing poisoning of open wounds by these diseases, and also by thus enabling surgeons to save limbs which might otherwise require amputation.

Clinical Records from Private and Hospital Practice.

I.—*Stricture of the Œsophagus, with the Lodgment in it of a Foreign Body.* By G. B. Balch, M. D., Yonkers, N. Y.

Mr. F., aged twenty-seven years; strictly temperate; healthy and well nourished; weight 184 pounds.

About one o'clock, p. m., January 8, 1875, the patient applied to me for professional advice, stating that while eating supper, about seven o'clock the previous evening, a piece of roast-beef had lodged in his throat, that it still remained there, and that he had not been able to swallow any thing since; not even a drop of water would pass the obstruction.

His respiration and pulse were normal; felt no particular inconvenience, except from the inability to swallow his saliva. Fluids would enter the œsophagus as far as the stricture, and then return to the mouth.

On attempting to pass the bougie, a slight stricture was encountered in the upper third of the œsophagus, which was readily passed. At the commencement of the lower third the bougie met an obstruction that it could not move or pass without the use of more force than was thought prudent to use.

History.—When about two and a half years of age he accidentally swallowed some sulphuric acid. The effect upon his mouth and throat was terrible, and the destruction of his life would probably have resulted had he not had a full stomach at the time. The stomach was immediately emptied by vomiting. For a year following it was almost a constant struggle for life, the difficulty of taking nourishment being so great. For about six years he could take nothing but liquids and semi-solid food.

Since he has commenced the use of solid food, has had repeated attacks of obstruction of the œsophagus. The period of time the obstruction has remained has varied from a few minutes to fifty hours.

About twelve years ago he had a severe choke from a piece of boiled corned-beef. Unsuccessful efforts were made both to push it down and pull it up; finally a prescription was given him containing muriatic acid for the purpose of digesting or dissolving the meat, and after several hours' rest he attempted to swallow some water and it went down. The obstruction remained at this time thirty-six hours.

For the past year or two he has considered himself entirely relieved, and has eaten every thing he wished without trouble. At this time he was dining a little later than usual, and, being in some haste to keep an engagement, probably was not as careful to masticate his food as usual.

Treatment.—After repeated trials to dislodge the obstruction by mechanical means, and failing, the following prescription was given: ℞. Acid. hydrochlor. dil. fʒij, pepsin. ʒj, aqua pura q. s. ad. f℥ij. Directions were given him to swallow a teaspoonful repeatedly, so as to keep the beef moistened by it, the object being to digest the meat.

10 P. M.—No change; the throat feels a little sore from the irritation caused by the attempts to pass the bougie, and efforts to swallow the medicine. Directed him to go to bed, and at one or two o'clock in the morning to attempt to swallow some water; if he then failed, to wait until daylight and repeat the trial.

January 9th, 8 A. M.—Has just succeeded in swallowing, the obstruction having remained thirty-seven hours. During the night he made several unsuccessful efforts to swallow; he then let it rest as directed for several hours, and then attempted to swallow some milk: two attempts were unsuccessful; a third with water succeeded. The throat remained sore for a few days, diet consisting of liquids and semi-solids, and then he resumed ordinary diet.

Remarks.—In the *American Journal of Medical Sciences*, for April, 1871, Samuel Ashhurst, M. D., reports a case of stricture in a child, aged four and a half years, that resulted fatally. A piece of ham lodging in the œsophagus near its entrance into the stomach, unsuccessful efforts were made to pass bougies. The stricture was caused by "swallowing lye" two years previous. The obstruction continued for seven days, when the child vomited some offensive, green matter, and, as the child expressed herself, "the lump had gone down."

The child continued to sink, and died nine hours after. The autopsy revealed some superficial ulcerations and a "strong, fibrous stricture about one inch and three-fourths from the lower end of the œsophagus."

Mr. Jonathan Hutchinson, in the "London Hospital Reports," relates a case of cicatricial stricture with obstruction of the œsophagus very similar to Dr. Ashhurst's, except that his case recovered after the dislodgment of the foreign body. Gastrotomy was thought of in both these cases, but not performed.

Out of eighteen cases[1] where gastrotomy has been performed for stricture of the œsophagus, only two have been for cicatricial stricture. J. Cooper Foster's[2] case survived about four days; Dr. Maury's[3] case twelve hours.

Cicatricial strictures of the œsophagus are not of very unfrequent occurrence, and the most successful treatment thus far used has been dilatation. Dr. Morell Mackenzie[4] has been very successful in the treatment of non-malignant or traumatic strictures by dilatation; his instrument is made similar to Holt's dilator for urethral stricture. Mr. Durham[5] and Dr. Richardson advocate the same treatment. Dr. Richardson has invented a dilator which secures lateral dilatation by the use of air or water.

The excessive use of mechanical means to dislodge an article of food lodged in the œsophagus, and which does not interfere with respiration, appears to me to be uncalled for until efforts have been made to digest or dissolve it. I have been unable to find any record of cases in which a digestive or dissolving treatment has been used. The idea suggested itself to me, and the patient said it had been employed by Dr. Parker, of Poughkeepsie, N. Y., in a previous attack, and with the same fortunate result.

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[1] Fifteen cases are reported and referred to by A. Jacobi, M. D., in a very able paper on "Gastrotomy in Stricture of the Œsophagus," New York Medical Journal, vol. xx., 1874. Three cases are recorded in the London *Lancet*, June 22, 1872, page 862.

[2] "Guy's Hospital Reports," Third Series, vol. v., 1859.

[3] *American Journal of Medical Sciences*, April, 1870.

[4] *Medical Times and Gazette*, July 16, 1870.

[5] New York Medical Journal, vol. xx., p. 298.

Notes of Hospital Practice.

ROOSEVELT HOSPITAL.

Iodoform in Stricture of the Urethra.—Much benefit has been obtained at this hospital from the application of iodoform in stricture of the urethra. The method pursued is as follows: Every day the stricture is dilated by three sounds, and after withdrawing the largest, a smaller one coated with iodoform-ointment is used as an applicator. After the applicator is introduced, the penis is compressed so as to leave the ointment in the urethra upon withdrawal of the instrument.

Treatment of Buboes by Paste of Chloride of Zinc.—The old-fashioned chloride-of-zinc paste has been recently used, and with excellent results, in the treatment of enlarged buboes, when it is necessary to extripate them. The paste is applied over the bubo every day, care being taken to guard the healthy skin by means of lint. The applications are continued till all traces of the glands are destroyed. The sore then heals from the bottom with little difficulty.

The Use of Ergot in the Treatment of Hæmorrhoids.—Some experiments are being made on the effects of ergot on hæmorrhoids. The method pursued is to keep the bowels open, and use an enema composed of one drachm of tincture of ergot and three ounces of water. This is in reality a topical application, as much of the injection comes away. So far the results are quite satisfactory.

Stramonium in Arthritic Effusions.—It is found that in cases of syphilis, where there is effusion into the joints, much relief is obtained by the application of stramonium-ointment to the outside of the joints.

The Use of Cotton-Waste instead of Sponges in dressing Wounds.—There has been brought into use at this hospital, for the dressing of wounds, picked cotton-waste. This waste is similar to that used for the cleaning of engines, and has to be picked over by the patients before it is ready for use. The advantages which it possesses are, that it is as satisfactory in the dressing of wounds as sponges, with the further advantage that when once used it is destroyed. It is cheaper than oakum, and much finer in texture. It was introduced into the hospital by the superintendent, Dr. Paine.

Fracture and Dislocation of the Ulna.—As a result of direct injury, a patient sustained a dislocation of the ulna backward, with a fracture of the bone at its lower third. Different appliances were used, but without being successful in keeping the parts in position, until at last a splint was applied to the forearm anteriorly, and so adapted that extension and counter-extension were made at either end of the splint. Since this appliance was used there has been no difficulty in keeping the dislocated and fractured bones in position.

BELLEVUE HOSPITAL, NEW YORK.

Gangrene of the Omentum.—A patient had been suffering from irreducible inguinal hernia for eleven years, and in some way produced a strangulation of the contents of the sac. The ordinary operation for strangulated hernia was performed, when it was found, on opening the sac, that the contents were made up of omentum in a state of gangrene. A double ligature was applied to the omentum above the seat of gangrene, and the necrosed tissues removed. At the present time (February 15th) the patient is doing well.

Gunshot-Wound of Ear.—A man some time ago was shot with a pistol and received the ball on the side of the head, striking on the mastoid bone, and dividing into two parts, one remaining in the external auditory canal, and the other passing forward and lodging behind the articulation of the inferior maxilla, where it formed an abscess. No further injury of the ear was detected than rupture of the tympanum.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Annual Meeting.

GEORGE G. FISHER, M. D., President.

THE sixty-ninth annual meeting of this Society was held in Albany, February 3d, 4th, and 5th. After the inaugural address by the President, which was referred to a committee, and the usual routine business, papers were read as follows:

Dr. D. B. St. John Roosa, on "Diseases of the Eye;" Dr. Hyde, on "Strangulated Hernia;" Dr. Thomas R. Pooley, on "Foreign Bodies in the Eye;" Dr. J. V. P. Quackenbush, on "Sub-peritoneal Cystic Tumors;" Dr. T. Addis Emmet, on the "Treatment and Removal of Fibroids from the Uterus by Traction;" Dr. S. O. Vanderpoel, on "Disinfection and Disinfectants;" Dr. E. R. Squibb, on "Salicylic Acid;" Dr. John P. Gray, on "Pathological Changes in Nervous Diseases, especially Insanity;" Dr. Lewis Elsberg, on "Acoustics;" Dr. J. C. Dalton, on "Experimentation on Animals for Physiological and Scientific Purposes." Dr. DALTON concluded by offering the following resolutions, which were adopted:

Whereas, A renewed attempt has been made during the past year to excite in the public mind a prejudice against the practice of experimentation on animals for mechanical and scientific purposes; and—

Whereas, Intimations have been publicly held out that the Legislature will be applied to for power to suppress or interfere with experiments of this nature, notwithstanding that such interference is expressly forbidden by the existing law, and in opposition to the declared sense of the medical profession: therefore—

Resolved, That this Society hereby reiterates the opinions and conclusions on this subject embodied in its memorial to the Legislature, adopted February 7, 1867, and reaffirms its conviction of the usefulness and propriety of experimentation on animals. Also—

Resolved, That the President of this Society be instructed, if it should become necessary, to transmit a certified copy of this preamble and resolutions to the two branches of the Legislature and to the Governor of the State of New York.

The following papers were read during the session:

Dr. Mary P. Jacobi, on the "Effect of Nitrate of Silver on the Epithelial and Gland Cells;" Dr. J. Marion Sims, on "Utero-Gastrotomy;" Dr. C. R. Agnew, on "Certain Diseases of the Eye, and their Treatment by Canthoplasty;" Dr. George T. Stevens, on "A Case of Sarcoma of the Ciliary Body;" Dr. L. D. Bulkley, on the "Relation of Urine to Diseases of the Skin;" Dr. H. D. Noyes, on "Cases of Disease of the Orbit of Unusual Character and Severity;" Dr. A. M. Vedder, on "Cases of Embolism;" Dr. F. N. Otis, on "Stricture of the Male Urethra;" Dr. J. W. S. Gouley, on "Perityphlitic Abscess;" Dr. J. V. Kendall, on "Presentation of Gall-Stones;" Dr. L. Elsberg, on "Auscultation of the Œsophagus;" Dr. Frank H. Hamilton, on the "Use of Hot Water in Surgery;" Dr. Abbott, on "Removal of a Breast by Knife and Ligature;" and Dr. Sherman, on "Fracture of the Acromian Extremity of the Clavicle."

The following report of the Nominating Committee was adopted:

President—Thomas F. Rochester, M. D., Buffalo.
Vice-President—Ellsworth Eliot, M. D., New York.
Secretary—Edward R. Hun, M. D., Albany.
Treasurer—Charles H. Porter, M. D., Albany.

CENSORS.

Southern District—Drs. Jos. C. Hutchison, Brooklyn; E. H. Parker, Poughkeepsie; Ellsworth Eliot, New York.

Eastern District—Drs. H. B. Whiton, Troy; Jas. L. Babcock, Albany; John P. Sharer, Little Falls.

Middle District—Drs. M. M. Bagg, Utica; W. T. Bassett, Cooperstown; C. G. Bacon, Fulton.

Western District—Drs. C. C. Wyckoff, Buffalo; Harvey Jewett, Canandaigua; Caleb Greene, Homer.

COMMITTEE ON CORRESPONDENCE.

First District—Dr. Thomas Addis Emmet, New York.
Second District—Dr. William P. Townsend, Goshen.
Third District—Dr. Henry B. Whiton, Troy.
Fourth District—Dr. Taber B. Reynolds, Saratoga.

Fifth District—Dr. Samuel G. Wolcott, Utica.
Sixth District—Dr. John G. Orton, Binghamton.
Seventh District—Dr. Henry B. Wilbur, Syracuse.
Eighth District—Dr. Charles E. Rider, Rochester.

COMMITTEE ON PERMANENT MEMBERS.

First District—Drs. Abraham Jacobi, New York; J. W. S. Gouley, New York.

Second District—Drs. J. Hasbrouck, Port Ewen; J. H. Pooley, Jr., Yonkers.

Third District—Drs. Joseph Lewi, Albany; M. H. Benton, Troy.

Fourth District—Drs. N. L. Snow, Canajoharie; Asahel Perry, South Easton.

Fifth District—Drs. Charles D. Budd, Turin; George W. Cook, Otego.

Sixth District—Drs. John K. Stanchfield, Elmira; C. B. Richards, Binghamton, Yates County.

Seventh District—None.

Eighth District—Drs. Thomas D. Strong, Westfield; William S. Ely, Rochester.

ELIGIBLE FOR PERMANENT MEMBERS.

First District—None.
Second District—Dr. D. Guernesey.
Third District—Drs. D. V. O'Leary, Henry March, F. A. Gacene.
Fourth District—Drs. S. E. Hale, J. N. Rhodes.
Fifth District—None.
Sixth District—Drs. F. Wylie, D. W. Burge.
Seventh District—Dr. W. W. Porter.
Eighth District—None.

HONORARY MEMBERS ELECTED.

Drs. Lewis W. Pakley, N. J.; J. M. Da Costa, Pa.; J. M. Toner, D. C.; Ezra M. Hood, N. J.

ELIGIBLE TO HONORARY MEMBERSHIP.

Drs. Francisco Dicheara, Italy; E. H. Gregory, Missouri.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

Drs. John P. Gray, George G. Fisher, H. W. Dean, W. C. Wey, J. Foster Jenkins, Fred. Hyde, C. R. Agnew, A. N. Bell, J. A. Minor, C. A. Robertson, J. V. P. Quackenbush, N. C. Husted, J. W. S. Gouley, George F. Shrady, F. D. Burdick, Henry D. Didama, Joseph C. Hutchison, E. R. Squibb, D. B. St. John Roosa, J. Marion Sims, H. S. Chubbuck, R. B. Bontecou, George H. Hubbard, Jacob Hunt, Lewis Elsberg, Thomas F. Rochester, E. M. Moore, John G. Orton, W. W. Porter, James P. White, William H. Bailey, C. C. Wyckoff, Levi Moore, T. A. Emmet, J. S. Mosher, Caleb Greene, Nelson Nivison, G. S. Winston, John G. Adams; Joshua B. Graves.

DELEGATES TO PENNSYLVANIA STATE MEDICAL SOCIETY.

Drs. A. H. Crosby, Solomon Van Etten.

DELEGATES TO MASSACHUSETTS STATE MEDICAL SOCIETY.

Edward H. Parker, J. H. Emerson, Roger W. Pearl, J. M. Sims, Eugene Beach, Charles A. Leale.

DELEGATES TO CONNECTICUT STATE MEDICAL SOCIETY.

Drs. E. S. Bradley, A. E. M. Purdy, N. C. Husted.

DELEGATES TO NEW JERSEY STATE MEDICAL SOCIETY.

Drs. Robert Newman, A. E. M. Purdy, S. Van Etten, G. Burk, Thomas G. Adeny, A. Jacobi, O. M. Allabin, J. W. Nelson, Frank P. Foster, Joseph Bates.

DELEGATES TO THE NEW HAMPSHIRE STATE MEDICAL SOCIETY.

Drs. M. R. Holbrook, William Govan.

DELEGATES TO THE VERMONT STATE MEDICAL SOCIETY.

Drs. H. T. Hanks, J. G. Green.

DELEGATE TO THE CANADIAN MEDICAL ASSOCIATION.

Dr. Arthur O. Wolff.

DELEGATES TO THE MICHIGAN STATE MEDICAL SOCIETY.

Drs. L. J. Amy, M. F. Morris, J. Parmlee, J. V. Kendall, J. H. Smith, Daniel G. Dodge.

DELEGATE TO THE WISCONSIN STATE MEDICAL SOCIETY.

Dr. Lyman Burton.

COMMITTEE ON STATISTICS.

First District—Dr. Ellsworth Eliot.
Second District—Dr. John Ordronaux.
Third District—Dr. Joseph Lewi.
Fourth District—Dr. Benjamin F. Sherman.
Fifth District—Dr. Henry A. Potter.
Sixth District—Dr. John G. Norton.
Seventh District—Dr. H. D. Didama.
Eighth District—Dr. Julius F. Minor.

COMMITTEE ON PRIZE ESSAYS.

Drs. Henry W. Dean, Julius F. Minor, William S. Ely.

COMMITTEE ON PUBLICATION.

Drs. A. E. M. Purdy, Ellsworth Eliot, E. R. Hun.

COMMITTEE ON BY-LAWS.

Drs. Oliver White, Thomas Hun, W. H. Bailey.

CENSOR OF THE SYRACUSE UNIVERSITY MEDICAL DEPARTMENT.

Dr. Samuel G. Wolcott.

Appended to the report of the Nominating Committee was the following, which was adopted with the report:

Whereas, After a continuous period of service as Secretary of this Society for ten years, Dr. William H. Bailey feels constrained to decline his further occupation of the office: it is therefore

Resolved, That the acknowledgments of this Medical Society of the State of New York are hereby conveyed to Dr. William H. Bailey for the self-sacrificing and eminently successful manner in which by his courtesy, skill, and ability, he has discharged the arduous duties incident to his position, and that these resolutions be published as a part of the proceedings of this Society.

Dr. DEAN, from the Committee on Prize Essays, reported the subject for next year to be: "Transfusion, Historical, Experimental, and Critical."

The PRESIDENT stated that the present Committee on Hygiene would be continued without change.

Dr. E. R. SQUIBB reported a set of resolutions, which were adopted, in relation to the publication of the proceedings of the Society. The resolutions provide for the publication of 1,800 copies; that the copyright of the volume shall be the property exclusively of the Society; that the members shall be furnished at from ten to fifteen per cent. above cost price; that copies of the work shall be sold at the option of the committee; directing the committee to report at the next meeting a plan for the future publication of the proceedings.

A number of other papers were read by title, and referred.

Dr. A. JACOBI presented the report of the Committee on the President's Address.

On motion of Dr. ELIOT, that portion of the address recommending the change of time of meeting of the Society, from February to September, was adopted.

The recommendation for the codification of all State laws relating to the medical profession was amended so that the Committee on By-Laws be directed to employ Dr. Ordronaux to perform the work. Adopted.

Dr. BELL read the report of the Committee on Hygiene, embracing reports on that subject from Albany, Cayuga, Chautauqua, Erie, Genesee, St. Lawrence, Montgomery, Ontario, Saratoga, and Kings Counties. The paper was discussed by Drs. Kendall and Govan.

Dr. KENDALL, from the Committee on Ethics, reported on the appeal of the Dutchess County Medical Society. The report was accepted, and afterward referred back to the committee, with instructions to report at the next meeting of the Society.

The committee appointed to invite the Health Committees of the Senate and Assembly to be present and listen to the discussion on sanitary affairs, reported that they had performed their duty as directed. The report was accepted.

Dr. FERGUSON, from the Auditing Committee, reported that they had examined the Treasurer's report, and found the same complete and correct. The report was accepted and ordered to be filed.

Dr. Thomas F. Rochester, from the Committee on Prize Essays, reported that but two competitive papers had been received for the McCosh prize on the designated subject for 1875, viz., "School Hygiene in reference to the Physiological Relations of Age and Sex to Mental and Physical Education." One of these had the motto, "The quality of the brain is the key to human knowledge," and was a good, practical, common-sense article, well worthy of publication. The other bore the motto, "*Salut populi—suprema lex*," a scholarly and philosophical essay, for which the prize was awarded to Alexander Hutchins, A. M., M. D., of No. 796 De Kalb Avenue, Brooklyn. No essays were received for the Brinsmade prize. The report was adopted.

Dr. Quackenbush, from the committee appointed to ask the Legislature for power to change the time of meeting of the Society from February to the third Tuesday in June, reported that they had performed their duty, and that the matter would be properly attended to. Report accepted.

On motion, the thanks of the Society were tendered to the retiring President, and also to Governor Tilden for hospitalities extended to the members at the Executive mansion. The Society then adjourned *sine die*.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Stated Meeting, February 9, 1875.

Dr. Henry B. Sands, President.

Tumors of the Optic Nerve; Removal of Tumor without Removal of Eyeball.—Dr. Hermann Knapp read an interesting paper on the above subject, and, in connection with it, presented a patient from whom he had removed a cancerous tumor of the optic nerve without removing the eye. He said tumors of the optic nerve were connected with either the outer sheath, the subvaginal portion, or the inner sheath, but that there were never noticed neuromata of the nerve itself. As regarded their histology, they were divided into the classes of Fibroma, Mixoma, Sarcoma, Glioma, Samoma, Carcinoma, and Cysts. The symptoms of the disease were mainly diplopia with exophthalmos, the eye being usually pressed forward and outward. There was a peculiar mobility of the eyeball, from the fact that the tumor was connected with it. In some cases there existed amblyopia, from pressure on the optic nerve, but in others there was perfect acuteness of vision, but a limit in the visual field accounted for by pressure on a portion of the nerve. The prognosis was favorable as regarded life, but unfavorable to the eye. Treatment consisted in their removal. Dr. Knapp, before presenting his patient, gave an abstract of the history, which was mainly as follows: In 1871 the woman came under observation, suffering from severe periodic pain in the orbit and side of the head. There was no double vision, and she could count fingers at twelve feet. When examined by the ophthalmoscope, she exhibited a peculiar variety of choked disk, but the media were perfectly clear. This neuro-retinitis continued for three years. The diagnosis was difficult to decide on positively. She was given the iodide of potassium and mercury, but no benefit resulted. Last May she was again seen, when a distinct tumor was found on the inner side of the globe, moving with the eyeball. It was decided to remove the tumor, and Dr. Knapp proposed to do it, and endeavor if possible to retain the globe in position. An incision was made through the conjunctiva by means of the scissors, which were then carried in to separate the recti muscles. The finger was introduced through this opening, so as to detach the tumor from its connections, and the complete separation of the tumor was then made by the scissors. In the operation the optic nerve was severed, and the growth removed nearly as far back as the optic foramen. None of the muscles were severed, and the extraction was accomplished with less difficulty than was expected, although the tumor was one-third larger than the eyeball. The wound healed without difficulty; not a single drop of pus being observable. An ulcer appeared on the cornea on the fourth day, due, as will be hereafter seen, to action of a foreign body on the conjunctiva, and not to deficient nutrition of the organ. A point of interest connected with the case was, that the inner half of the conjunctiva was completely insensible, whereas the sensibility of the outer half was good, though dull. Dr. Knapp demonstrated this on the patient by touching the conjunctiva with a piece of paper. When the inner side was touched, she did not seem to notice it, but as soon as the paper was carried to the outer side she closed the eye. The eye was a little smaller than its fellow of the opposite side, but in all other respects closely resembled it. The pupil was dilated and immovable. Some time after the operation, the veins of the disk began to fill and enlarge, and then they became varicose. Eventually they ruptured and caused ecchymosis. Dr. Knapp showed different diagrams of the tumor, and said that it was of cancerous formation. It had no sheath proper, but was pyriform in shape, and embraced the optic nerve.

Dr. Knapp said that, as far as he knew, this was the first time that the eyeball had not been removed in the removal of a tumor of the optic nerve, and before its removal he was in doubt as to whether the eye could be nourished or not.

Dr. Simon Fitch presented a trocar differing from the ordinary form, in having the canula on the inside instead of the outside of the trocar. By this means the danger of the canula tearing the sac is entirely obviated.

NEW YORK SOCIETY OF NEUROLOGY AND ELECTROLOGY.

Stated Meeting, January 18, 1875.

Dr. Meredith Clymer, President, in the chair.

Dr. Beverley Robinson read a paper, which will be found elsewhere in this Journal, "On Certain Morbid Alterations of Mucous Membrane; their Influence on Speech, and their Apparent Relations with Diseased Nerve-Structure."

The Society then proceeded to the discussion of the report of the Committee on "Experimental Researches on the Motor

Functions of the Cerebral Convolutions," as ordered at the last meeting.

Dr. J. C. Dalton briefly recapitulated the chief points of the report.

Dr. James J. Putnam, of Boston, in answer to a request of the Chair, referred briefly to some experiments performed and published some six months ago, which were undertaken with the view of testing to what degree, if any, feeble induction-currents applied to the cortex cerebri, after the manner of Hitzig and Ferrier, acted on parts lying beneath the surface. The method of procedure was to expose the brain carefully, and, after finding one of the so-called centres, and the minimum strength of current able to produce the muscular contractions on the opposite side of the body, to carry a sharp knife under the part, severing all nervous connections, but leaving the mechanical contact intact. When this had been done, the same strength of current failed to call out the muscular movements. Dr. Putnam referred also to some experiments which he was assisting Dr. James, of Harvard University, to make, which should determine whether excitation of the cortex of the posterior cervical lobes, where, according to Meynert and others, the various sensitive nerves of the body find their central termination, would cause a rise of blood-pressure, such as is known to follow excitation of peripheral nerves. The changes in blood-pressure were recorded through a manometer attached to some large artery, upon a revolving cylinder. The results, so far, had been inconstant.

Dr. H. P. Bowditch found that when the animal was under ether there was still a rise of blood-pressure, but not so when under chloroform; tending to show that the subjective sensation of pain is not essential to this rise of blood-pressure. The experiments were still in progress.

Dr. J. J. Mason made objections to the experiments of Hitzig and Ferrier with regard to the diffusion of electric currents, that the galvanometer is fit only to test the diffusion of the galvanic current, and not of the faradic.

After some remarks by Dr. G. M. Beard, the Society adjourned, to meet February 2d.

Adjourned Stated Meeting, February 2, 1875.

DR. MEREDITH CLYMER, President, in the chair.

DR. LEWIS A. SAYRE read a paper "On Partial Paralysis and Want of Coördination from Irritation of the Genital Organs."

Dr. Sayre referred to a paper he had read to the American Medical Association, in 1870, on "Reflex Paralysis, caused by Congenital Phymosis and Adherent Prepuce." Mr. Barwell, of London, and Dr. Pitcher, of Detroit, and others, had written to him afterward, confirming his observations and views, and mentioning cases of like kind they had seen, but the nature of which had, previous to Dr. Sayre's paper, been obscure. So many similar cases had since then come under his notice, that he desired to bring the subject again before the profession, as he was satisfied that there were many grave affections of the nervous system attributable to this cause, and whose real nature was not suspected. He had no theory about the pathology of the disease to offer. He hoped some light would be thrown on that point by gentlemen this evening. It had seemed to him that in many cases there was an anæmic condition of the spinal cord, as some patients, when in the erect position, lose all muscular power, and even the power of speech, and yet when placed on their backs recover both.

Dr. Sayre alluded to a paper of Dr. F. N. OTIS, read before the Academy of Medicine, on this subject, and regretted that he knew of it only after the completion of his own.

The PRESIDENT said Dr. Sayre's paper was of practical value as a contribution of cases illustrating the occurrence of reflex or other nervous troubles from prolonged irritation of the genital organs. The pathogeny of this class of affections was disputed. It presented a wide field for discussion. In view of the absence of those members of the Society who were most likely to take part in it and to furnish interesting contributions of cases, he would suggest a postponement of the discussion until another evening. He had not himself seen cases similar to those described by Dr. Sayre, but he had frequently within the past twenty years—since, indeed, his attention had been first called to the subject—met with a great variety of nervous troubles, both of mobility and sensation, due to continued irritation of some part of the genital organs, and that in both sexes and at all ages. Many persons had been sent to him for treatment, suffering either from impaired motor power, or with some disorder of sensation, lessened, increased, or perverted, and supposed to depend on some affection of the central nervous system, when, in fact, the true origin was to be found in the bladder, urethra, ovaries, uterus, or external genital organs of the female. They had been caused by a reflected irritation; and on the removal of the local factor the troubles of the nervous system had disappeared. In stricture of the urethra this was a common state of things, and the factor was generally unsuspected. Dr. CLYMER had seen many such cases which had been unsuccessfully treated by nervous specialists, and where the paresis and anæsthesia or hyperæsthesia had disappeared as soon as the stricture was cured.

With regard to the nature of these troubles he (Dr. Clymer) was not prepared to say whether there was anæmia or hyperæmia of the cord. He had serious doubts whether the morbid expressions were due to either condition. There was no proof that either existed, and there was much in favor of the belief that the blood-vessels of the cord and its coverings were not concerned in their production, or, if so, only secondarily. He believed that the tendency in the nervous pathogeny of the day, to implicate the vascular system of the nerve-centres in so many of the functional disorders of the nervous system, was an error. He thought that in the class of cases under consideration this evening there was a direct projection of the irritation upon the nerve-cells, motor and sensory. This was particularly evident by the rapid disappearance of the nervous troubles after the peripheral irritation had been quieted.

After remarks by Dr. H. P. FARNHAM and others, the discussion was adjourned to March 15th.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 21, 1875.

Dr. Austin Flint, President.

Dr. Austin Flint, the retiring President, delivered an appropriate address on resigning his position, and, among other valuable suggestions, made one to the effect that the Academy should meet one evening in each week. His reason for this was, that after the ordinary business has been transacted, and the paper of the evening read, there is not time for its discussion in full; and, moreover, if the discussion were to take place on some evening following, there would be time for the Fellows to fully prepare themselves. Dr. Flint then installed the incoming President, Dr. S. S. Purple, who read an inaugural address, reviewing the early history of the Academy.

Dr. Vankleek moved the following resolutions, which were carried:

Resolved, That the thanks of the Academy are eminently due, and are hereby tendered, to Dr. Austin Flint, our late President, for the able, impartial, and satisfactory manner in which he has discharged the duties of his office during the past two years.

Resolved, That the valuable suggestions which have been made by the President, and the retiring President, be sent to the Council of the Academy for consideration.

Dr. Flint moved the following resolution, which was carried unanimously:

Whereas, The Council of this Academy did, at the last stated meeting, approve and recommend the transfer of the building-fund now in the custody of the Trustees, to the *Committee of Ways and Means*, for the specific purpose of purchasing a building for the use of the Academy: therefore be it

Resolved, That the Trustees of the New York Academy of Medicine be and are hereby authorized and directed to transfer the whole amount of the building-fund to the *Committee of Ways and Means*, for the specific purpose of purchasing the house and lot No. 12 West Thirty-first Street.

Dr. R. F. Weir read a paper, which appears elsewhere in this Journal, on "Ichthyosis of the Tongue."

Stated Meeting, February 4, 1875.

Dr. S. S. Purple, President.

There was a large gathering at the Academy to hear the discussion on the "Etiology and Treatment of Pneumonia."

Dr. Austin Flint, by request of the President, opened the discussion by indicating some points of interest that might be freely considered. He noted first the diverse characteristics of the disease at different localities, and at different times in the same localities. In the Southern States pneumonia has always been a more grave disease than it has been in the North. Again, the disease as it manifests itself at the present time in this city is of a more dangerous character than we are usually in the habit of considering it. Dr. Flint gave, in this connection, the brief histories of several cases which came under his care during the month of January, each of them dying in a few days. As regarded the treatment of the disease, he took up fully the use of bleeding as a therapeutical agent, and considered the views and results of Louis on this matter. Louis reported seventy-eight cases in which there were twenty-eight deaths; he reported also other twenty-nine cases, having four deaths. In his observations he did not regard the subject of mortality, but simply whether bleeding did or did not have a tendency to shorten the disease. The conclusions that he arrived at were, that if bleeding were practised in the earlier days of the disease, it not only had a happy effect, but shortened its duration by four or five days; whereas, if the bleeding were delayed till late in the disease, no good effect was obtained. Jackson reported fifty-one cases, in which he had eight deaths. His treatment was the same as that of Louis. Dr. Flint reported one hundred and thirty-three cases that came under his own observation, and in which bleeding was practised only in twelve of them. There were thirty-five deaths, but a point of interest connected with them was, that they were observed in different cities: sixty-four at Buffalo, with eleven deaths; eleven at Louisville, with seven deaths; fifty-eight at New Orleans, with seventeen deaths. He said also that there was one very important thing to bear in mind in the consideration of pneumonia; and that was, that when the inflammation was confined to a single lobe, and there were no complications, the tendency was to recover; and as regards the treatment, whether bleeding exerted an influence in preventing the complications which might arise, such as gangrene of the lungs, extension of the inflammation, pericarditis, and heart-clot. He referred also to the value of opium in diminishing the constitutional disturbance; and to the plan, presented latterly, of keeping the heat of the patient down by antipyretic treatment. He was in favor of the administration of quinia, and had seen marked benefit from its use. Dr. Flint read a short description, from a medical periodical, of pneumonia developing in a high-school which had been exposed to the influence of sewer-gas. The facts were as follows: The sewer authorities, in defiance of the protest of the principal of the school, placed a ventilator so as to infect the institution with sewer-gas. Shortly after, a number of cases of pneumonia developed, and, as a consequence, the school had to be closed. For many years previous to this there had been no sickness in the institution, and, when the ventilator was removed, no new cases occurred, leaving the strong inference that the sewer-gas was the peccant agent.

Dr. W. H. Thomson read the histories of five cases of pneumonia which had recently been under observation in Bellevue Hospital, and in which the main treatment had been antipyretic. The method pursued was to apply to the chest ice-bags till the temperature fell. Of the five cases, only one proved fatal. Dr. Thomson read a selection from Niemeyer, bearing out his opinions as to the effect of cold in keeping down the temperature, and improving the chances of the patient. He said also that the medicinal treatment consisted in the administration of ten grains of the carbonate of ammonia every two hours, with one grain of quinia every hour.

Dr. A. L. Loomis said that, in the consideration of pneumonia, the two main elements to bear in mind were the etiology and treatment; and of the causes, the most important was age. We saw it mostly between twenty and forty years, and again after sixty—the pneumonia of children was broncho-pneumonia. The predisposing cause was the cause of the disease, and by the predisposing cause was meant any thing that lowers the vitality of the patient. Here, in New York, we are all staggering under the influence of malaria, and with any slight exposure there may follow a pneumonia. Inanition, the continual use of alcoholics, the poison of sewer-gas, septicæmia, rheumatism, pyæmia, and all those conditions which debilitate, render the system at any time liable to an attack from a cause which, in sound health, would prove inoperative. Dr. Loomis said also that, in his experience, idiopathic pneumonia was of such rare occurrence that he questioned its existence. He did not think there could be much difference of opinion as to the injury received from venesection in pneumonia, where the predisposing cause was debility; the indication was to find and combat the cause of the debility. As to the use of ice in the treatment of the disease, his opinion was decidedly against it, though he was sorry that he had not a more extensive experience. He found that it kept down the temperature as long as it was applied to the chest, but he found also that at the same time there was a tendency for the disease to spread. He found, on coming on duty at the Mount Sinai Hospital, several cases treated by ice, but they all died. The cause of the high temperature was the metamorphosis of tissue that takes place, and the remedy, in his experience, that prevented this change, was the sulphate of quinia. He had found a full dose of the drug to lower the temperature from one to one and a half degree, and considered that ten grains should be given at a dose. When the heart began to flag and grow weak, the remedy was alcohol. He found it the only thing to be relied on to stimulate the heart to renewed activity, and ward off œdema of the lungs and other causes of failure of the circulation.

Adjourned Stated Meeting, February 11, 1875.

Dr. S. S. Purple, President.

Continuation of the Discussion on Pneumonia.—Dr. John C. Peters gave briefly his experience in the treatment of pneumonia at different times. In Berlin, in 1841, bloodletting was practised even in typhoid pneumonia. Digitalis was the remedy relied on for internal treatment. The success of this treatment was very good. In Vienna, the treatment pursued by Skoda was nearly wholly expectant, and his results were also very good. The remedies used were nitre and a decoction which in reality was hay-tea. There was in Vienna at that time a Homœopathic Hospital conducted far in advance of the hospitals of that time, and resembling to a certain extent Roosevelt Hospital in this city. The treatment consisted in the administration of a preparation of phosphorus in water. The treatment was very successful, but not so much so as that of Skoda. At the New York Hospital the treatment was the administration of large doses of tartar-emetic. At first vomiting and diarrhœa resulted, but on the third day a tolerance of the remedy was obtained. The result of this treatment was also very good. Dr. Peters said that he thought that the pneumonia now was of a more grave character than it was ten years ago, and he argued from the fact that, though the treatment was the same, it was not so successful.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, January 2, 1875.

DR. FRANCIS DELAFIELD, President.

Polypus of the Uterus.—Dr. FINNEL presented a specimen of uterine polypus removed from a patient aged thirty-five, and unmarried. The main symptom complained of was metrorrhagia coming on at irregular intervals. The cause of the patient's death was an attack of metro-peritonitis, resulting in septicæmia. An examination of the case revealed a large polypus of the uterus connected with the fundus, and composed of the usual fibrous formation. Dr. FINNEL gave the results of several cases of uterine polypi which came under his observation at St. Vincent's Hospital. He detailed also the difficulty he occasionally labored under in dilating the cervix by means of sponge-tents.

Pyo-Nephritis—Gummy Tumor of Spinal Cord.—The PRESIDENT presented a specimen of pyo-nephritis which he removed from a case that died in Roosevelt Hospital. The history of the case was as follows: A man, aged fifty-four, entered Roosevelt Hospital on the 3d of January, complaining of paraplegia, with cystitis. Twelve years before, he had an attack of syphilis which was followed by a secondary eruption. After that, complained of no special trouble till December 28, 1874, when he found that his stream of urine became small, and in a day or two it stopped completely. It was found necessary to relieve the retention by means of the aspirator. On admission, January 3, 1875, no difficulty was found in passing an instrument into the bladder, and the patient said that, a week before admission, he detected incipient paraplegia. After admission the urine was found to be alkaline, and to contain pus and blood-globules. He gradually lost power over the sphincters of the anus, and on January 18th his temperature ran up, and on the next day he died, comatose. Shortly before death his urine was exceedingly bloody.

Autopsy.—The spinal cord in the lower dorsal region showed a gummy tumor of the inner layers of the dura mater, involving also the pia mater, and pressing on the cord itself. As a result of this the cystitis developed, and, on examining the kidneys, they were both found affected. Small points or foci were noticed, which were in reality minute deposits of pus. The cystitis had resulted in pyelitis, and then pyonephritis. The pus existed between the tubules. In answer to Dr. Finnel, Dr. Delafield said he did not know why the patient had been aspirated, as no obstruction had been noticed in entering the bladder. Dr. Finnel said that recently he had a similar experience. He had been sent for to aspirate the bladder of a patient, and when he examined the patient he had but little difficulty in introducing a small silver catheter.

Malignant Disease of Mesentery.—Dr. Finnel recited the history of a case that came recently under his observation, and where he had been asked to make an autopsy. A boy aged five years had for some time suffered from an abdominal tumor, two feet in its longest by one foot in its shortest diameter. No diagnosis was arrived at as to its nature.

Suddenly the patient died, and at the *post-mortem* examination it was found that the whole abdomen was filled with a large mass, which proved to be malignant disease of the mesentery. It apparently consisted of medullary and colloid cancer, and was of such feeble consistence that it broke down under the hands in trying to remove it. The sudden death was due to the rupture of one of the larger veins, and consequent internal hæmorrhage. All of the veins in the abdominal cavity were in a varicose state, but Dr. FINNEL was not certain which vein had ruptured. There was no hereditary taint. The PRESIDENT said that in this class of cancer the veins were usually very varicose, and it was a wonder to him that they did not rupture more often than they did.

Catarrhal Pneumonia.—Dr. HEITZMAN presented a specimen of lung showing the pathological conditions of catarrhal pneumonia. Dr. HEITZMAN, in answer to a question from the PRESIDENT, said that cheesy degeneration might invade the walls of the vesicle, but that if the exudation was of a fibrinous nature, he did not think it would be subject to this variety of degeneration. The white corpuscles were the cause of this degeneration. The President said that in his experience he had found, in children and unhealthy adults, that cheesy degeneration occurred where very few white corpuscles could be noticed.

Calculi of the Kidney; Colitis; Stricture of Rectum.—Dr. J. Q. BIRD, President of the Hudson City Pathological Society, presented to the Society a specimen with written history, which was read by the Secretary. The history was to the following effect: A man, aged twenty-four, had suffered from pain in the abdomen and diarrhœa one year before seeking admission into the Hudson City Hospital. On admission, pain was complained of over the abdomen, and he was then having from six to twelve passages daily. An examination of the rectum showed several fungoid protrusions, which were removed by ligation. The urine was not examined. The cause of death was acute phthisis.

Autopsy.—The body was emaciated. Pericardium healthy. The lungs were adherent, and contained several cavities which were filled with a dirty-brown gangrenous fluid. The pyloric extremity of the stomach was considerably thickened. The main points of interest in the case were the *colon, rectum, and kidney.* All along the rectum and colon, but not above the ilio-cæcal valve, were fungoid growths, terminated in some cases by small melanotic tumors. In some cases these protrusions were an inch in length. At a short distance above the rectum a tight stricture was discovered. On examining the kidneys one of them was found to be healthy, but the other contained numerous calculi, situated in the pelvis, and varying in size from one-third of an inch to an inch in length. The father and sister had been similarly affected with protrusions from the rectum. In answer to a question from Dr. Erskine Mason, Dr. Bird said that this stricture developed while the patient was in hospital. The President said that the case formed one of a well-known group in which the disease was chronic colitis. The protrusions consist of connective tissue, and possibly they may have gland-follicles also. The stricture and ulcerations are also caused by the inflammation of the mucous membrane of the colon.

Stated Meeting, February 10, 1875.

Dr. Delafield, President.

Poisoning by Aconite and Chloroform.—Dr. Blake recited the history of a case of poisoning, and fortunately had not a specimen from it to present, as the case terminated favorably. The patient was a young lady, who took one drachm of a mixture containing equal parts of tincture of aconite and chloroform. Between one half and three-quarters of an hour afterward the toxic effects appeared, though much of the poison had been evacuated by the stomach-pump. Respiration ceased entirely, and the pulse could not be detected at the wrist, and it was only after three or four hours that the treatment exerted an influence. The treatment consisted in the administration of oxygen gas and atmospheric air in equal proportions, and the continuous use of the battery. After rallying, the urine was found to contain albumen and fragments of different varieties of casts. Subsequent to this, and some time after complete recovery, no trace of either albumen or casts could be discovered. Dr. Blake wished to know if the chloroform or aconite could have been the direct cause of this acute attack of albuminuria. The PRESIDENT said that the marked stasis which Dr. Blake had mentioned as occurring in the case would account for all of the symptoms of Bright's disease, which had been referred to.

Stricture of the Œsophagus from Malignant Disease.—Dr. ERSKINE MASON presented a specimen of malignant disease of the œsophagus which he had removed from a patient at the Colored Home, under the following circumstances: The man was aged fifty-three, and a mulatto. He entered the Home during October, and two months before entering found that he was losing both strength and flesh. Two weeks previous to admission he had noticed that he found great difficulty in swallowing solids, and even liquids caused him a good deal of annoyance. On admission, the stricture was so marked that he swallowed liquids only with the greatest difficulty. Every thing he took apparently rested in the proximity of the upper part of the sternum, and in a few moments after was expelled. A bougie of the size of No. 18 (urethral) was passed with difficulty, and the obstruction was found about eight inches from the mouth. The treatment consisted of the use of fluids, such as milk and beef-tea. Bougies were passed twice a week till No. 6 in œsophageal scale was reached. He continued much the same till November 22d, when he died. During the whole of his sickness there was never any pain, except immediately before his death. The specimen showed the malignant disease to be fusiform in shape, and to extend upward for about four inches, beginning at a point about two inches above the stomach. In its greatest circumference it measured five and a quarter inches, and was irregularly lobulated. A microscopical examination proved the growth to be malignant. The specimen was referred to the Microscopical Committee for more minute examination.

Tumor of the Breast; Adenoma.—Dr. MASON presented also a tumor which he removed from a patient in Roosevelt Hospital. The patient was a woman of thirty-two years of age.

Eight years ago she noticed a small tumor in the right breast, the size of a walnut. Four years ago it was quite distinct, and during the last two years has grown rapidly. There was no pain till a few months ago, and even then it was not very severe. There was no discoloration of the breast or retraction of the nipple. The lymphatics were not affected. The patient could not recollect having ever received any injury to the breast. A microscopical examination proved the growth to be made up of fibrous tissue and gland-structure. In answer to a question from Dr. SAYRE, Dr. Mason said there was no history of the case of stricture of the œsophagus ever having received any injury. When the stricture was traumatic it was annular, and did not involve any length of the œsophagus.

False Joints at the Elbow.—Dr. LEWIS A. SAYRE presented an elbow removed from a noted Ethiopian comedian, who died last week. The case was of special interest, in demonstrating how it was that he was able to execute some peculiar motions for which he was famous. Dr. Sayre saw him fifteen years ago, and detected the false joint, and at that time he promised to bequeath to Dr. Sayre his arm when he should die. An examination of the arm showed the biceps muscle to be normal. The brachialis anticus was attached to the capsule of the joint. When the specimen was closely examined, there were found four false joints, the result of fracture of the olecranon process and condyles. The shortening of this arm was two and a half inches.

Exsection of the Hip-Joint.—Dr. SAYRE also presented a specimen of head of the femur, which he removed from a boy a few days before. During September, 1871, the patient fell, and since that time he dates the disease. At the operation, it was found that the head of the femur was thoroughly necrosed and projected through the acetabulum. In the operation it was necessary first to saw through the femur, and then remove the bone from the acetabulum by means of a forceps.

Aneurism of the Aorta.—Dr. LEALE presented a small specimen of aneurism of the descending portion of the arch of the aorta. The patient had been under the observation of different medical men, but previous to death no diagnosis was made. Rupture took place into the œsophagus. At the autopsy an aneurism about the size of an English walnut was found on the descending portion of the arch. The pressure of the tumor on the bronchi, below the bifurcation, caused a certain amount of localized bronchitis, which was quite visible at the *post-mortem* examination.

Pericarditis.—The PRESIDENT exhibited a specimen of pericarditis, which had been taken from a patient in Roosevelt Hospital. Considerable interest was connected with the case, from the fact that the patient was supposed to have pneumonia with his pericarditis. This occurred from congestion and compression of the lungs, and transmission of the voice-sounds. The compression was caused by fluid in the pleura, together with the enlarged pericardium. The pericardium was very much thickened from fibrinous deposit.

Small Cirrhotic Liver with a Smooth Surface.—The PRESIDENT also presented a remarkable specimen of cirrhosis of the liver, in which there were none of the usual irregularities on the surface. The patient had been an inmate of Roosevelt Hospital, and was about fifty-six years of age. He gave the usual history of a case of cirrhosis, having been a hard drinker for many years. He complained greatly of dyspeptic symptoms, and after a time ascites with jaundice supervened. The liver was of small size, weighing only two pounds. The surface was perfectly smooth. The capsule was not markedly thickened. There was a decided increase of connective tissue. The President, in answer to a question, said that the nodulations on the liver were not due to subsequent contraction of the fibrous tissue, as had been formerly supposed, but to the disappearance of the liver-cells. There were four varieties of cirrhotic livers—the large livers with a rough or smooth surface, and the small livers with a rough or smooth surface.

Bibliographical and Literary Notes.

ART. I.—*Clinical Medicine.* Lectures and Essays by BALTHAZAR FOSTER, M. D. London: J. & A. Churchill, 1874.

OUR readers have already seen many of the lectures which compose the volume under notice, in various British medical periodicals. They are much mistaken if they think, however, that they will not enjoy reading them afresh, with the advantages of good type and paper.

The subjects discussed are all eminently practical (we use the word in its best sense). Dr. Foster knows, moreover, how to put what he has to say in a readable form. He is what every clinical teacher should be, a watchful student of the conquests made by physiology. Thus his bedside instruction will amply repay a careful perusal.

The first lecture is on the "Treatment of Ulcer of the Stomach." In severe cases Dr. Foster advocates, at the outset, complete rest for the stomach, by stopping the supply of nutriment by the mouth, and supporting the patient for several days by nutritive enemata. For this purpose he recommends Leube's formula, namely, taking five to ten ounces of finely-chopped meat, and adding one-third its weight of finely-minced pancreas, free from fat, the whole to be treated in a mortar, with five ounces of lukewarm water, and reduced to a thick soup. In the way of special directions, he says: "In all cases I would have you wash out the lower bowel well before commencing treatment. Use injections of small quantity, never exceeding four to six ounces. . . . Feeding your patient according to these rules, you may gain for the stomach rest for several days—generally six to ten." We draw attention to this extract, as, shortly after reading it, a patient came into our hands suffering from acute gastritis. We at once carried out the foregoing directions, and succeeded in maintaining nutrition, without any help from the stomach, for seventeen days. At the end of this period, our patient, who was a lady, presented no signs of emaciation, but a fair degree of strength and vigor.

The second lecture is on "Cyanosis from Patent Foramen

Ovale." Dr. Foster still holds to the opinion that the cyanosis is due to the admixture of venous and arterial blood on the left side of the heart. In the way of treatment, he makes out a good case for peroxide of hydrogen and chlorate of potash. Our experience with the latter agent fully confirms Dr. Foster's view, that it does convey oxygen into the blood.

The third lecture, "On the Use of Ether in the Treatment of Phthisis," takes up the fact, proved by Bernard, that the flow of the pancreatic juice is stimulated by the employment of ether, and applies it to those consumptive patients who experience difficulty in the digestion of cod-liver oil. Dr. Foster's premise that the administration of the two remedies, either separately or in conjunction, would be followed by an increased capacity for digesting the cod-liver oil, was fully sustained by practical experience.

The fourth lecture, "On Digitalis in Heart-Disease," is extremely interesting. By a clear process of reasoning, the value of digitalis in mitral disease is demonstrated, and the reason for caution in its use, where the aortic valves are alone affected, is adverted to.

The fifth lecture, "On Rupture of the Aortic Valves from Accident," details some interesting cases, where the valves previously softened by degenerative changes were lacerated by a sudden shock. Considerable pains are taken to point out the means of diagnosing this very rare occurrence.

The sixth lecture, "On the Synthesis of Acute Rheumatism," relates cases where rheumatic phenomena were produced by the administration of lactic acid. The cases given are extremely satisfactory, so far as they go, but the experience could not be repeated in every case at will.

Chapter VII., "On Duchenne's Paralysis," is an interesting contribution upon a subject about which the professional public know just enough to welcome something more.

Chapter VIII. furnishes "Observations on the Treatment of Diabetes Mellitus." Dr. Foster believes that diabetes is due to several causes, viz.: 1. Defective power in the liver of assimilating and storing up sugar formed from starch during digestion. For this form the so-called diabetic diet, opium, and the ethereal solution of the peroxide of hydrogen, are recommended. 2. Increased production of sugar in the liver. In the treatment of this variety, Dr. Foster found benefit from a purely animal diet, and the administration of some drug which directly controls hepatic circulation, and so checks the excessive glycogenesis. Opium, he says, acts mainly in this way, and so does codeia; ergot likewise deserves a trial. 3. The abnormal formation of sugar as regards quality, for which again an animal diet is recommended, together with some easily-combustible substance, such as lactic acid, glycerine, or skim-milk; and, in the way of drugs, opium, arsenic, and bromide of potassium.

Chapter IX. gives "Cases illustrating the Use of the Sphygmograph and Cardiograph in the Study of Diseases of the Heart and Great Vessels," which may interest the very limited number of persons in this country who have adopted in practice these instruments of precision.

Chapter X., the final lecture, details the particulars of a "Case of Pleuritic Effusion, in which Embolism followed Thoracentesis by Aspiration."

In this very imperfect and hasty sketch we have endeavored to convey to our readers some impression of the mine of wealth the book contains. No one can peruse the thoughtful comments of our author upon every subject he considers, without feeling himself a richer man for his pains. We bespeak for the work a wide circle of readers.

ART. II.—*The Microscope and its Relations.* By WILLIAM B. CARPENTER, M. D., LL. D., F. R. S., etc. Fifth edition, prepared with the Assistance of H. J. SLACK, F. G. S. Illustrated by Twenty-five Plates and Four Hundred and Forty-nine Wood Engravings. Philadelphia: Lindsay & Blakiston, 1875.

CARPENTER on the microscope is a thoroughly good book, and, though one of the earliest in the field, it holds its own steadily in public favor, notwithstanding the multitude of rivals that have appeared since the first edition was issued. In this respect it may be likened to Watson's "Practice of

Medicine." There is a certain amount of information needed regarding the construction and working of the microscope, and the method of making preparations, and this Dr. Carpenter succeeded in supplying so well and clearly that subsequent writers have hardly been able to improve on that portion of his work.

In the present edition the author has availed himself of the valuable experience of Mr. Slack, the Secretary to the Royal Microscopical Society, in order that nothing of practical utility might be omitted. We think one of the virtues of the work before us is that the student is not perplexed with too many details concerning apparatus and appliances of doubtful or only occasional value, but is taught first the main principles on which the science and art of microscopy are based.

The work is very full and satisfactory in all that relates to the study of the lower forms of animal and vegetable life, but the author has purposely omitted any reference to the application of the microscope to pathological inquiry. It is a common error with students to begin with the latter, and thus find themselves always working at a disadvantage.

Dr. Carpenter's work treats successively of the optical principles of the microscope, its construction, its management, accessory apparatus, the preparation, mounting, and collecting of objects, microscopic forms of vegetable and animal life, including vertebrated animals, and the application of the microscope to geology, mineralogy, and chemistry.

The present edition has been thoroughly revised, and liberal additions have been made wherever the advance of the science demanded it. Not only the student of medicine, but amateurs and others interesested in the study of natural history, will find the volume one of great practical value. The illustrations are numerous and very good, and the work is issued in excellent style.

ART. III.—*A Hand-book of Therapeutics.* By SIDNEY RINGER, M. D., Professor of Therapeutics in University College, etc. Fourth edition. New York: William Wood & Co., 1875.

THE new edition of this useful and popular work contains some additional matter regarding the latest therapeutic discoveries. Several of the chapters have been enlarged, and new ones have been introduced treating of phosphorus, croton-chloral, and hamamelis. With the general scope and character of the book the profession is already familiar. It is of very convenient size for reference, and, although not very full in details, the information it contains is accurate and the arrangement exceedingly simple. Hence it well deserves the popularity it has attained.

BOOKS AND PAMPHLETS RECEIVED.—Spinal Paralysis of the Adult; Acute, Subacute, and Chronic. (Inflammation of the Motor Tract of the Spinal Cord.) A Paper read before the New York Academy of Medicine, November 5, 1874. By E. C. Seguin, M. D., Clinical Professor of the Diseases of the Mind and Nervous System, in the College of Physicians and Surgeons, New York. Reprinted from the Transactions of the Academy. For private circulation only. New York: D. Appleton & Co., 1874.

Compendium of Children's Diseases. A Hand-book for Practitioners and Students. By Dr. Johann Steiner, Professor of the Diseases of Children in the University of Prague, and Physician to the Francis-Joseph Hospital for Sick Children. Translated from the second German edition, by Lawson Tait, F. R. C. S., Surgeon to the Birmingham Hospital for Women, etc. New York: D. Appleton & Co., 1875.

A Practical Treatise on the Medical and Surgical Use of Electricity; including Localized and General Faradization, Localized and Central Galvanization, Electrolysis, and Galvano-Cautery. By George M. Beard, M. D., and A. D. Rockwell, M. D. Second edition, revised, enlarged, and mostly rewritten. Nearly Two Hundred Illustrations. New York: William Wood & Co., 1875.

Thirty-second Report to the Legislature of Massachusetts, relating to the Registry and Return of Births, Marriages, and Deaths, in the Commonwealth, for the Year ending December 31, 1873. Prepared under the Direction of the Secretary of the Commonwealth. With Editorial Remarks, by F. W. Draper, M. D. Pp. 162.

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On Winter Cough, Catarrh, Bronchitis, Emphysema, Asthma; a Course of Lectures delivered at the Royal Hospital for Diseases of the Chest. By Horace Dobell, M. D., Senior Physician to the Hospital, etc., etc. Third and enlarged edition, with Colored Plates. Philadelphia: Lindsay & Blakiston, 1875.

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Certain Nervous Affections of the Throat. By Clinton Wagner, M. D., Physician to the Metropolitan Throat Hospital, etc. Reprinted from the *Psychological and Medico-Legal Journal* for October, 1874.

Diseases of the Mammary Glands during Lactation. By Salvatore Caro, M. D. Reprinted from the Transactions of the New York Academy of Medicine, for November, 1874.

Six Months under the Red Cross, with the French Army. By George Halstead Boyland, M. D., Ex-chirurgien de l'Armée Française. Cincinnati: Robert Clarke & Co., 1873.

On the Insanity of Inebriety. By George Burr, M. D., of Binghamton, N. Y. Reprinted from the *Psychological and Medico-Legal Journal* for December, 1874. Pp. 25.

Near-Sight treated by Atropia. With Tables. By Hasket Derby, M. D., Surgeon to the Massachusetts Charitable Eye and Ear Infirmary at Boston, etc. New York, 1875.

The British and Foreign Medico-Chirurgical Review and Quarterly Journal of Practical Medicine and Surgery, No. cix., January, 1875. London: J. & A. Churchill.

The Coming Medical Man; an Anniversary Discourse, delivered before the New York Academy of Medicine, December 8, 1874. By D. B. St. John Roosa, M. D.

Du Rôle des Organismes Inférieurs dans les Lésions Chirurgicales. Par le Docteur G. Nepveu. Paris, 1875. Pp. 55.

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Physician's Office Case-Record and Prescription Blank-Book. Cincinnati: Case-Record Company, 1875.

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Report of the Health Commission of the State of New Jersey, for the Year 1874. Pp. 64.

Reports on the Progress of Medicine.

SURGERY.[1]

PREPARED BY SAMUEL B. WARD, M. D.

EVER since anæsthetics were introduced, deaths have occasionally been reported from their use; and in some cases—as in operations about the face—their administration is attended with more or less inconvenience.

Dr. Copeland has stated during the past year[2] that he has found the difficulty in respiration, during their inhalation, to be due to the head being thrown so far back that the stylo-hyoid muscles draw the tongue in the same direction, and so close the glottis. This he says may be remedied, whenever it occurs, by simply tilting the head forward and relaxing these muscles, without the necessity of making traction on the tongue with tenaculum or forceps.

In the opinion of Dr. J. Marion Sims, threatened deaths from chloroform or ether narcosis usually, if not always, depend on cerebral anæmia. He therefore proposes, and from experience recommends, in these frightful emergencies, holding the patient up by the feet, and allowing the blood to reach the brain by its own specific gravity.

During the past year an effort has been made to introduce a new method of bringing about insensibility, by the injection of chloral into the veins.

On the 2d of March last, Prof. Oré, of Bordeaux, communicated to the French Academy of Sciences a case in which this had been resorted to. The enormous amount of 340 grains of chloral hydrate was slowly injected into one of the radial veins: in ten minutes profound insensibility was produced; the operation lasted twenty-five minutes; and the patient was easily and rapidly aroused by the interrupted current, having known nothing at all of the operation.

Prof. Oré considers it of great importance that a sieve or filter should be introduced into the syringe, so that no solid particles whatever may enter the vein. From his experience with the method in this and other cases the professor maintained that it should be preferred to chloroform for surgical anæsthesia. From this opinion MM. Verneuil, Duplay, and others, who took part in the discussion of the paper, dissented; one of them, M. Le Fort, going so far as to say that "to practise surgical anæsthesia by the injection of chloral into the veins was to show profound contempt for human life."[3]

On November 2d, M. Oré made a second communication to the Academy,[4] stating that he had then used this method fourteen times, and each time with success. He recommends that the solution be used of the strength of one part of chloral to three of water; that it be injected slowly—fifteen grains per minute; that the vein be punctured through the skin without exposing it by dissection; and that the canula be not left in too long, lest it produce coagulation. From seventy-five to one hundred and twenty grains are generally required, and the injection should occupy from five to eight minutes.

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[1] This Report was read before the Journal and Library Association, January, 1875.

[2] *Boston Medical and Surgical Journal*, February, 1874, p. 209.

[3] *American Journal of Medical Sciences*, July, 1874, from the *Gazette Hebdomadaire*, May 22, 1874.

[4] *Archives Générales de Médecine*, January, 1875, p. 113.

Considering the very uncertain action of the drug when administered by the stomach, and the large number of times that coagulation in the vessels has followed its intra-venous use in cases now on record, there seems little probability that the method can ever become a safe one, despite M. Oré's success.

In a certain number of cases surgeons hesitate to produce anæsthesia by inhalation, on account of the existence of heart-disease. Dr. B. W. Richardson reports two such in the London *Lancet*,[1] both cases of cancer of the breast, in which excision was performed by scissor-cutting under ether-spray. In the one case ether-spray was first thrown upon the breast for five minutes to chill the skin, and then the ether was replaced by "anæsthetic ether"—a compound of ether, of the sp. gr. of .720, with hydride of amyle. In a few moments the whole breast was frozen like a hard snow-ball, and the process was continued one minute longer, to equally chill the deeper structures. The incision of the superficial parts was made with small, strong, sharp, slightly-curved scissors, while the deeper parts were cut with similar scissors, tooth-edged. In three minutes the entire breast was removed, of course without any hæmorrhage. During the thawing one vessel bled so freely as to require the application of a ligature, both ends of which were cut off short. Five sutures were applied, and the wound dressed with cotton-wool and styptic colloid. The patient's temperature never rose above 99°, and when the dressings were removed, at the end of five days, the wound had healed without interruption at any point, and without a drop of discharge. The patient stated that she experienced a sensation of numbness, like that felt in the hands in frosty weather, but no pain. The pressure of the scissors could be felt, and an occasional jar; but she was not aware when the incisions were made. One curious result of the operation was, that the irregular action of the heart disappeared, and the patient was restored to perfect health in July, the operation having been performed on the 8th of May.

Soon after the recovery of this patient, a second case, almost entirely similar, presented itself. General anæsthesia was advised against, on account of heart-disease, and the steps of the operation were precisely the same as those already detailed. On the fourth day, union by the first intention was perfect, and on the eighth day the patient was able to go out. "As this second patient began to rally from the operation, the distressing cardiac symptoms entirely passed away, the stroke of the heart improved in tone, the irritability ceased, and the faint murmur became imperceptible." Dr. Richardson remarks upon these cases: 1. That local anæsthesia answered every indication in two patients to whom he could not conscientiously have recommended inhalation, and saved him all anxiety during the operation. 2. The method of cutting with scissors overcomes all the objections urged against the scalpel in frozen tissues. Good scissors are needed, and the tooth-edged instrument in the deeper tissues assists in preventing hæmorrhage. 3. The heart-disease was, of course, purely nervous—either reflex, or the result of mental anxiety; and the early removal of the malignant growth served to cure it.

In another way local anæsthesia has been produced in one case at least. On June 21st, M. Le Fort read before the *Société de Chirurgie* of

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[1] August 29, 1874.

Paris[1] a paper, in which he stated that this effect had, in his hands, followed the application of Esmarch's method, and he attributed it to energetic compression of the sensory nerves. MM. Demarquay and Verneuil had experimented in the same direction, but in some cases only dulled the sensibility, and in others had failed in producing even that effect.

The use of carbolic acid as a local anæsthetic has not been forgotten, when the surface to be rendered insensible is very restricted in size; and I have found it especially serviceable as an application preceding nitric acid in the cauterization of chancroids.

Although the number of fatal cases from the intra-venous injection of chloral has been so great as to deter from the use of that method of producing anæsthesia, it may still be justifiable to resort to it in the management of tetanus, which so rarely yields to any other treatment. At a meeting of the Surgical Society of Paris,[2] M. Verneuil stated that up to 1868 he had never seen a case of tetanus recover. He next reported two cases successfully treated by the chloral method, one being cured in twenty-five days, and the other in a month, the dose being in the first case 90 grains, and in the second 150 grains per day. There is no objection to the drug being administered by the stomach as long as deglutition is possible; after that, the intra-venous method is recommended. This makes a total of five cases that M. Verneuil has thus treated successfully, or a proportion of cures amounting to two-fifths.

M. Bourdy, of Mans, has also reported[3] a case of tetanus successfully treated by chloral and morphine subcutaneously. The daily dose of chloral was 120 grains, and during the treatment the patient took seven ounces of chloral and 27 grains of morphine.

In the *Lancet*, during December last, Dr. J. B. Carruthers reports another case of exceedingly acute character, accompanied by great tenderness over the spine, successfully treated by chloral and bromide of potassium. The patient, a boy, fourteen years old, took in all 1,140 grains of chloral in sixteen days, or over 70 grains per day. The reporter had no doubt of the efficacy of the chloral in saving the boy's life.

On the other hand, in the practice of others, the use of this drug has not been so successful. M. Chauvel has treated two cases by the stomach, both unsuccessfully. M. Tillaux has also reported an unsuccessful case, the chloral being given at first by the stomach, and afterward through the veins. At the *post-mortem* examination, dark clots were found in the cephalic and axillary veins, and firm, white clots in the right auricle and left ventricle.

Dr. E. C. Mann, of this city, has reported[4] a fatal case of idiopathic tetanus, in which chloral, morphine, and Calabar bean, were all tried. It would appear, from the published history of the case, that only fifteen grains of chloral were given at bedtime, a much smaller dose than in the successful cases.

Calabar bean still holds a prominent place in the treatment of this disease, and Dr. Sidney Ringer,[5] and, I believe, one or two others, have reported successes. Many others, however, have not been so fortunate.

During 1874, we have had from Mr. Erichsen, of London, his views on "Hospitalism, and the Causes of Death after Operations." Hospitalism is defined to be "a septic influence capable of infecting a wound, or of affecting the constitution injuriously." Its main cause he believes to be overcrowding; not only placing too many patients in a ward of a given cubic space, but also placing too many severe cases, and especially suppurating wounds, in each ward. He regards the whole argument as one not against hospitals in general, but against badly-managed or badly-constructed ones; and suggests, as the remedy, enforcing cleanliness, and avoiding overcrowding.

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[1] London *Medical Record*, July 29, 1874; in *American Journal of Medical Sciences*, October, 1874, p. 551.

[2] *Union Médicale*, May 23, and *Gazette Hebdomadaire*, May 22, 1874.

[3] *American Journal of Medical Sciences*, October, 1874.

[4] *New York Medical Record*, January, 1875, p. 38.

[5] London *Practitioner*, November, 1874, p. 338.

The usefulness of the aspirator in relieving retention of urine, when, for any reason, the catheter cannot be employed, has been demonstrated by an additional number of published cases, and in many more that have not been deemed worthy of recording, so well established has the operation become. M. Fochier has recently read[1] quite an elaborate paper on the subject, urging its entire freedom from danger, even when, by accident, the peritonæum is punctured. One objection that has been urged against it is that a small amount of urine is liable to remain at the bottom of the bladder, and, there undergoing decomposition, to set up a cystitis. Dr. James A. Hall, of Elmira, N. Y., has pointed out[2] that he has been able to avoid this, by laying the patient on his side, and emptying the bladder completely.

Mr. W. F. Teevan has reported[3] an interesting case of retention, from impassable stricture, in which the urine was induced to flow, *per vias naturales*, by M. Cazenave's plan of plugging the rectum with ice; the stricture was then treated by burning it through with caustic potash, and the results of both plans of treatment were said to be very gratifying.

A rare and interesting case of tumor of the bladder has been put on record. The patient, a boy twelve years of age, began, ten months previous to the date of the operation, to have some pain in passing water. The diagnosis of stone in the bladder was made, and the patient sent to Vienna for operation. He came under the care of Prof. Billroth, who could find no stone, but did find a tumor projecting into the bladder, and preventing a satisfactory exploration with the sound. It was determined to perform the lateral operation, and through the wound make a more satisfactory examination. No stone could be discovered in any diverticulum or elsewhere, but a tumor was found, as large as an apple, attached to the posterior wall. The supra-pubic operation was then at once performed, and the large tumor was, with difficulty, made to pass through the incision. The posterior wall of the bladder was then raised up through the opening in the abdomen, and the pedicle of the tumor carefully dissected out, the proceeding demanding incisions deep into the muscular walls of the bladder. The tumor proved, on examination, to be a pure myoma, and the patient was doing well at last accounts. Dr. Schwaighofer, who reports the case,[4] remarks: "Both on account of its pathological rarity, and of the ingenious boldness of the operator, the case is one which I imagine will be of general interest."

The most thoroughly new and bold operation reported during the past year is to be credited also to the same famous Vienna surgeon. On December 31, 1873, Billroth removed[5] the entire larynx and epiglottis from a man aged forty. The operation was necessitated by carcinomatous growths in the larynx, and Dr. Störck had repeatedly relieved the patient from impending suffocation by removing portions of the growths by aid of the laryngeal mirror and forceps. When this was no longer possible, Billroth made Balassa's operation of laryngo-fissure, cleared out all the growths, and applied some preparation of iron, with the effect of affording the patient relief for about six weeks. At the end of that time the growths returned, and the entire larynx was removed. The patient breathed without difficulty through a canula inserted directly into the trachea, and subsequently a mechanical contrivance was adapted to this, so that the patient could speak intelligibly. Life was prolonged by the operation just about six months.

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[1] *Lyon Médicale*, December 6. 1874.

[2] *New York Medical Record*, 1874, p. 343,

[3] London *Lancet*, February 7, 1874; in *American Journal of Medical Sciences*, April, 1874, p. 555.

[4] *Irish Hospital Gazette*, July, 15, 1874, p. 224.

[5] *Medical Times and Gazette*, February 14, 1874, p. 192.

Since then Billroth has repeated the operation[1] on a man aged fifty, suffering with rapidly-growing epithelial cancer of the larynx, the neighboring glands not being yet involved. The case did not terminate as favorably as the first, the patient dying a few days afterward from hypostatic pneumonia. The fact may be considered as demonstrated, that the operation is a feasible one—that is, not necessarily fatal, *per se*.

The operation of subhyoidean laryngotomy has been performed by Dr. George M. Lefferts[2] for the first time, it is believed, in this country, and for the sixth time in the world. The object was the removal of a ring which had been for four years lodged in the upper part of the larynx of a child six and a half years old, and the result was in every way satisfactory. This is probably the first time that the operation has ever been made for the purpose of removing a foreign body from the larynx.

Mr. John Wood has reported, in the *Lancet*,[3] two more successful operations for complete ectopia vesicæ, by transplanting flaps of skin, turned from adjacent parts of the abdominal wall. The first flap is laid with its epidermic surface toward the bladder, and much annoyance is caused the patient if the hairs are allowed to remain growing on it. He knows of no way to prevent this except to destroy the hair-bulbs *seriatim*, with strong nitric acid, before operating; and nothing will prevent the deposit of phosphates from the urine upon any that may remain, but scrupulous cleanliness. He advises for this a very dilute mixture of nitric acid and water.

The efficacy of skin-grafting, in procuring the healing of indolent ulcers, is gradually becoming more fully recognized, and we have had two good papers on the subject, one by Dr. R. J. Levis,[4] of Philadelphia, and the other by Mr. Benjamin Auger.[5] Both have had large experience with the method, and they arrive at nearly the same conclusions. It is not necessary that the grafts should come from the patient himself, but, when taken from the skin of freshly-amputated limbs, from that covering benign tumors recently removed, and even from the preputial mucous membrane, they have been found to answer equally well. Of course, the skin from the neighborhood of malignant disease, or from an individual with any contagious disease, should be avoided. To insure success, it seems necessary that a portion of the true skin, and not the epidermis alone, should be taken, and the graft should not exceed one-fourth of an inch square in size. This is little more, however, than a confirmation of what was previously known on the subject. It may be worth while to add that it is not considered best to make any incision into the granulations, but simply to lay the graft upon their surface, with its epidermis uppermost, and confine it there.

While speaking of the surgery of the skin, it may be well to note that Dr. Alfred C. Post, of this city, in an operation recently performed at the Presbyterian Hospital, made an application of a plan used long ago by Tagliacozzi, which is believed to be new. That celebrated Italian surgeon, as is well known, was in the habit of preparing the piece of skin out of which he intended to build a nose, by separating it from all its connections on two sides and underneath, leaving it to be nourished only from the ends, and so increasing the supply of blood from these directions. Dr. Post's case was one of cicatricial contraction of the neck from a burn, and there was a bridge of skin extending from the lower jaw to the anterior surface of the chest, which it was particularly desirable to use in remedying the deformity, and which was so long and so narrow that it would almost certainly have sloughed if separated on three sides and underneath all at once. The doctor therefore made an incision at each side, raised it from the tissues beneath, dressed it in that position for two weeks with oiled lint, and at the end of that time was able to make good use of it without any loss of substance.

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[1] *Wien. Med. Zeitschrift*, November 17, 1874.
[2] *New York Medical Record*, 1874, p. 641.
[3] February 7, 1874. [4] *Philadelphia Medical Times*.
[5] *Medical Times and Gazette*, December 12, 1874, p. 663.

The use of the warm-water bath as a surgical dressing is not by any means new during the past year, but has probably received an impulse in this country from its advocacy by Dr. Frank H. Hamilton.[1]

The same gentleman was probably the first to operate for the radical cure of that very distressing deformity—hallux valgus—by resection of the head of the metatarsal bone, when there was no abscess or caries of the joint. This was year before last; and, during 1874, Dr. Rose, of St. Francis Hospital, has given us a very good paper on the subject,[2] with the histories of five successful cases.

Transfusion has excited much attention, and in the past year many reports have reached us of its extensive trial abroad, with the blood of the lower animals as well as of man, and in cases that threatened to prove fatal, not only directly from excessive hæmorrhage, but also from chronic anæmia and wasting diseases. The operation appears to be a comparatively safe one, the main danger to be avoided being coagulation during its performance. The details of the best mode of operating appear to be still *sub judice*, and as to the benefits to be expected from it, in some classes of cases, reports seem to be very various. It appears to be settled, however, that human blood, not deprived of its fibrine, is to be preferred to any other, while the use of the blood of the lower animals is followed by at least temporary benefit. It was my good fortune, during the war, to see one life saved by the injection of defibrinated blood, with an ordinary syringe, which has never been put on record. The use of milk, instead of blood, has also recently been recommended.[3] In a paper read before the New York Academy of Medicine, in January last,[4] Dr. Fordyce Barker stated that transfusion had been six times resorted to in this city, without ever being followed by recovery. In April, Dr. Joseph W. Howe reported a case[5] in which recovery ensued, and, if not actually dependent upon the operation, was certainly hastened by it.

The elastic ligature of Dittel has still been somewhat used. At a meeting of the Clinical Society of London,[6] on November 27th, Mr. Henry Lee related a case in which it had been employed, and which gave rise to some discussion. The advantages claimed for it seem to be that it acts without loss of blood; that in virtue of its elasticity it remains tight when an inelastic cord would loosen by the shrinking of the inclosed tissues, and that patients will sometimes submit to it willingly who refuse an operation by the knife. For this latter reason we have resorted to it once, with no objectionable result, except the time wasted. The arguments urged against it are that it is not always a bloodless method, one fatal case of hæmorrhage from the carotid artery having been reported after the removal of a cervical gland, by its use; and that the surgeon cannot control the exact path the cord shall take, so that in removing a cancerous breast, for example, a portion of the diseased tissue may be left behind. We are inclined to think that, for these reasons, and the length of time involved in its use, the method will never become a popular one.

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[1] *New York Medical Record*, 1874, p. 249.

[2] Ibid., 1874, p. 200.

[3] *Obstetrical Journal of Great Britain and Ireland*, December, 1874, p. 549.

[4] *New York Medical Record*, 1874, p. 187.

[5] Ibid., 1874, p. 170.

[6] *Medical Times and Gazette*, December 12, 1874, p. 673.

The kidney has been twice extirpated during the past year,[1] once by Simon, on account of disease, with a fatal result from septicæmia, on the thirty-first day; and once successfully, by Brandt, Professor of Surgery at Klausenburg, on account of injury. These two cases, added to the nine previously on record, make a total of eleven cases in which this formidable operation has been undertaken, with eight deaths and three recoveries.

The success which has of late years attended ovariotomy has shown that the wounding of the peritonæum is not the almost necessarily fatal injury which it was at one time supposed to be. This being ascertained, propositions have arisen to perform various other operations for lesions of the abdominal viscera, which were previously accounted unjustifiable.

Attention has been drawn during the past two or three years, in this country, to the advisability of resorting to abdominal section in cases of intussusception, as well as other forms of intestinal obstruction, by the paper read before the New York State Medical Society, in 1872, by Dr. Stephen Rogers, and the article which appeared in the New York Medical Journal, in August, 1873, by Dr. Samuel Whitall. Mr. Jonathan Hutchinson has more recently read a paper before the Royal Medical and Chirurgical Society,[2] detailing a successful case in which laparotomy was performed on a child two years of age, on account of intussusception, injections, bougies, etc., having previously failed to afford relief. He strongly recommends the operation, when other means have failed, by an incision in the linea alba below the umbilicus, and considers it desirable that all making autopsies in such cases, which have not been operated on, should state whether surgical interference would have been practicable. The difficulty which sometimes attends the diagnosis in such cases is well illustrated by two cases presented to the New York Pathological Society, by Dr. J. Lewis Smith.

Two cases of normal ovariotomy have been reported, the first operated on by Dr. T. G. Thomas;[3] the second by Dr. T. T. Sabine.[4] In both the patients recovered, with very great improvement in the first case, and a cure in the second. In the first case, both ovaries were removed; in the second, only the left.

The credit of the operation of early opening abscesses in the right iliac fossa, the result of perityphlitis, is fairly due to my much-respected preceptor, Dr. Willard Parker,[5] and the success which has followed the operation is really remarkable. In September last, Dr. Gurdon Buck read, before the New York Academy of Medicine, a paper on this subject, in which is included a table of all the cases which had come to his knowledge. They number ten, with ten successes; and it is creditable to our city to be able to add that nine of the operations were by New York surgeons. Additional experience seems to have shown that the incision is best made over that portion of the tumor which appears to be nearest the surface. Dr. Buck recommends that a small trocar, or the needle of an aspirator, be first employed to confirm the diagnosis, and then used as a guide to enable us to reach the cavity of the abscess with ease and certainty. Doubtless the suggestion will prove, in many cases, a valuable one.

Dr. A. Jacobi's paper on gastrotomy[6] for stricture of the œsophagus is an excellent one, collating fifteen examples in all. The arguments in favor of the performance of the operation in suitable cases seem good, and it is to be regretted that there is not yet a success to report.

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[1] *American Journal of Medical Sciences*, July, 1874, p. 266.

[2] *New York Medical Record*, 1874, p. 36.

[3] New York Medical Journal, August, 1874, p. 181. [4] Ibid., January, 1875, p. 37.

[5] *New York Medical Record*, vol. i., p. 25.

[6] New York Medical Journal, August and September, 1874.

Lumbar colotomy, in cases of obstruction of the rectum, has grown in favor, and reports have been made of successes, both in this country and abroad, in what were otherwise hopeless cases.

In the New York Medical Journal for February last[1] may be found the report of a case in which Dr. Charles A. Leale was able to introduce his hand into the rectum of a woman profoundly narcotized by chloroform, after the manner proposed by Simon. No difficulty was experienced in touching a point on the abdominal wall four inches above the umbilicus; in feeling the edge of the liver; in grasping the fundus of the uterus in the palm of the hand, and feeling a tumor growing from it of the size of a walnut, and in examining both ovaries. When the hand was withdrawn it was not even tinged with blood, and there were no unpleasant consequences. The value of this means of diagnosis in cases of pelvic and abdominal tumors, if as easily practised in all cases as in this, can scarcely be over-estimated.

Another instance of sudden death quickly following the injection of perchloride of iron into a nævus situated on the frontal bone reminds us that this mode of treatment is not free from danger.[2]

M. Bourguet (d'Aix)[3] has succeeded in procuring union in pseudarthrosis of the femur after the methods commonly in use had failed. He employed the injection of stimulating solutions between the fragments, and near the broken ends of the bones, the substances used being ammonia (of one-third, and afterward one-half the usual strength) and iodine. Subsequently the leg, thigh, and pelvis, were kept perfectly quiet by the silicated apparatus.

Several histories of cases published during the past year have forcibly illustrated the necessity of adhering, whenever possible, to the good old rule laid down by Guthrie, in case of dangerous hæmorrhage from wound of an artery, "to tie the wounded vessel at the point of injury, and tie both ends of it." Of course the rule cannot always be adhered to, but Prof. H. B. Sands has recorded[4] one instance, in which following the rule was attended with very great difficulty, and in which the result amply repaid the effort. It is probable that many a surgeon, who was a less accomplished anatomist, might have shrunk from undertaking it. The history of the case is full of interest and instruction. The patient had been relieved of a scirrhous tumor of the lower jaw, the operation necessitating division of the external carotid artery, which was ligated. On the tenth day secondary hæmorrhage came on, the source of which was unknown, so serious in amount as to demand radical measures for its arrest. Pressure in the wound controlled it temporarily. A ligature was first passed under the common carotid; but compressing that vessel between the ligature and the finger failed to stop the bleeding when the pressure was taken off. The pressure being renewed, the internal carotid was next tied above the bleeding point, and the ligature, already placed around the common carotid below, was tightened. The pressure was again removed, and "no gush followed, but a bleeding continuous in character and small in amount." Careful inspection now showed the source of the hæmorrhage to be "a small, circular, clean-cut ulceration in the side of the internal carotid artery, situated an inch below the upper ligature, and the same distance above the upper border of the thyroid cartilage." A third ligature, placed around the internal carotid, two or three lines below the opening, entirely controlled the slight bleeding which still persisted, and which must have come through branches springing from the stump of the external carotid. Dr. Sands was of the opinion, at the time that he reported the case, that it was the only one on record "in which a lesion of the internal carotid had been treated by the application of a double ligature to the injured vessel, one on the proximal and the other on the distal side of the bleeding point." In a subsequent note, however, Dr. Sands states that his attention has since been called to a case published by Prof. W. T. Briggs, of Nashville, in 1871, in which that gentleman opened the sac of an aneurism of the internal carotid artery, and applied ligatures to the wounded vessel above and below the bleeding point. It is interesting also to notice in Dr. Sands's case that a small opening having been accidentally made in the internal jugular vein, a ligature was thrown around the wound, and the calibre of the vessel not occluded. No further bleeding occurred from that source, and there is no reason to suppose that circulation through the vessel was interrupted.

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[1] Page 169.

[2] *American Journal of Medical Sciences*, April, 1874; from *Lancet*, February 7, 1874.

[3] *Amer. Jour. Med. Sci.*, April, 1874, from *L'Union Médicale*, Feb. 10, 1874.

[4] New York Medical Journal, January, 1874, pp. 34, 41.

On the other hand, the history of a case of pistol-wound of the neck, treated at Bellevue Hospital, is reported,[1] in which secondary hæmorrhage occurred from a spot which could not be exposed; and, because it was well known that ligature of the common carotid might fail entirely to restrain the hæmorrhage, its branches—the external and internal carotids—were tied with the happiest result. Since the result was the salvation of the patient's life, it may be hypercritical to find fault with the operation; but it certainly seems difficult to conceive of any wound, or combination of wounds, of one or both of these vessels, for which ligation of both, near their origin, is the simplest and best treatment, on anatomical grounds alone. It is also difficult to see why this operation would be less likely to be followed by brain-symptoms than ligation of the common trunk. But if circumstances compelled the ligation of one of the branches so close to the bifurcation as to render it probable that the current of blood, through the common trunk and the other branch, would wash away the plug on the proximal side of the ligature, then undoubtedly stopping the current through the other branch is advisable. It has been shown by Dr. Longworth[2] that ligature of the external carotid, especially when performed above the digastric muscle, is a very safe operation, and should control bleeding from that vessel and its branches beyond the point of occlusion. When that vessel is wounded too close to its origin to permit of the formation of a clot, the internal carotid, and either the external or common, must be tied. In wounds of the internal carotid no plan can be a safe one except that adopted by Dr. Sands, of ligating the vessel on both sides of the wound. Some of these points are brought out in Dr. Stephen Smith's recent paper on this subject.[3]

The best method of treating aneurisms is just now exciting much thought and discussion among operating surgeons. The splendid lectures of Mr. Timothy Holmes[4] are probably familiar to you all. The method of controlling the circulation through the aneurismal sac, either by flexing the limb at one of the articulations, or by pressure on the main trunk above by some kind of mechanical contrivance, is growing in favor. Cases published by Mr. Bryant, of Guy's Hospital,[5] and Dr. Sands, of Roosevelt,[6] illustrate its usefulness in suitable cases. But it does not always succeed; and the claim has been made that, when it has failed, the artery is left in a bad condition for subsequent ligation. Mr. Holmes does not think that this necessarily follows.

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[1] *New York Medical Record*, 1874, p. 88.
[2] *Archives for Scientific and Practical Medicine*, No. 5.
[3] NEW YORK MEDICAL JOURNAL, January, 1874, p. 40.
[4] London *Medical Times and Gazette*, summer of 1874.
[5] London *Lancet*, December, 1874.
[6] *New York Medical Record*, November, 1874, p. 561.

Dr. Plagge, of Darmstadt,[1] has succeeded in curing a traumatic aneurism of the femoral artery by subcutaneous injection of ergotin, in a patient in whom it was feared that ligation of the external iliac would prove fatal.

In another case in which ligature was contraindicated by the existence of heart-disease, and the bad condition of the arterial coats, Mr. Bryant[2] treated a popliteal aneurism by introducing horse-hair into the sac, after pressure had failed. This was the second operation of the kind on record, the first having been performed by Dr. Levis, of the Pennsylvania Hospital. Both patients died.

During the past year a very important case has been operated on by Dr. Daniel M. Stimson, of this city. The patient, a young man of eighteen, bore on the right side of his neck a tumor, which constituted so great a deformity as to attract the attention of every one who passed him in the street. There was nothing noticeable at birth, except a discoloration of skin over the lower jaw, but the growth began in early life. It consisted, for the most part, of a double fold of much-thickened and hypertrophied skin; sprang from a line running from a point near the occipital protuberance behind, downward, and forward, to a point on the lower jaw, nearly below the angle of the mouth, and hung down so far as to cover the lapel of his coat. The ear had grown to double its natural size, was very much thickened, and the top of it turned over on itself. The meatus auditorius externus was drawn down by the weight of the ear, very nearly, if not quite, an inch. The growth contained evidently many large blood-vessels, and firm nodules, pressure on which caused unconscious spasmodic contractions of the muscles raising the shoulder, and which were therefore supposed to be nerves hypertrophied, and curled up on themselves. The growth had apparently appropriated to itself more than its fair share of the nutrition supplied to the region where it was situated, and, as a consequence, the lower jaw and clavicle on that side had never been developed to correspond with the other side of the body, and there was marked drooping of the shoulder. The case acquired additional interest from the fact that, a few years ago, nearly all the celebrated surgeons on the other side of the Atlantic had been consulted, and had advised against operation, only one of them, Billroth, thinking that it might be done, but refusing himself to undertake it. Dr. Willard Parker was of the opinion, last spring, that the growth could be removed with safety, and the result, at the hands of his partner, proved the correctness of the decision. The tumor was removed at two sittings, the first on May 28th, and the second on October 1st. The first operation lasted two hours and a half, and consisted of the removal of the anterior portion of the tumor, by a long and tedious dissection, which exposed the pes anserinus, and also the sheath of the carotid artery for the space of an inch and a half, and involved the removal of a part of the parotid gland. A considerable amount of blood was lost, but the patient rallied well from the operation, and the wound healed kindly.

The second operation lasted about as long as the first, consisted of the removal of the remainder of the tumor, and was not attended by any special difficulty. The hæmorrhage was severe, but the means ordinarily in use sufficed to control it.

Microscopical examination proved the growth to be a molluscum simplex, and it is to be hoped that the operator will soon publish the history of the case in full. This sketch of it is derived in part from his case-book, and in part from his kindness in allowing me to see the patient and the second operation. The improvement in the patient's appearance was most marked.

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[1] *London Medical Record*, February 11, 1874.

[2] *American Journal of Medical Sciences*, April, 1874, p. 550; from *Guy's Hospital Gazette*, December 6, 1873.

Dr. Byrne, of Brooklyn, by the introduction of his galvano-cautery battery, and his book on its use in uterine surgery, has done much to popularize the method of removing tumors by the wire heated by electricity, where this can be substituted for the knife, when hæmorrhage is to be feared during an operation. Objections have been urged against Dr. Byrne's form of instrument, but its portability and efficacy, when properly handled, will probably render it more generally serviceable than any other battery which has yet been introduced for the purpose.

It was only during 1874 that Esmarch's method of rendering operations upon the extremities bloodless came into common use among New York surgeons, though Dr. Krackowizer was the first to employ it in this city, in October, 1873. The necessity, in certain cases, of saving every possible drop of the vital fluid for a patient who had recently suffered a profuse hæmorrhage, or was the subject of chronic anæmia, had long been recognized. Comparatively rude attempts to accomplish this by raising the limb, stroking it toward the trunk, so as to favor the return of venous blood, and then quickly applying Petit's tourniquet, were frequently made. This, however, does not in the least detract from the credit due to Esmarch for having perfected and introduced all the details of a method by which the object could be perfectly accomplished. Suggested simply by a desire to save blood, it has been found to facilitate many operations, such as those for necrosis, and the removal of tumors, in which the main difficulty of the operation lay in the parts being obscured by constant slight hæmorrhage. The only serious objection urged against it is that paralysis has occasionally followed its use. This appears, however, to be due to the injudicious use of a hard, small cord, for the tourniquet, instead of a softer one of larger diameter, or a flat band. I am sure, also, that I have often seen the cord applied much more tightly than was at all necessary, and that many do not appreciate how slight an amount of pressure is needed to control even large arteries. This method was the subject of Dr. Sands's inaugural address as President of the County Medical Society, a few weeks ago. His able paper,[1] and the discussion which followed, brought out all the main points on both sides, and are so fresh in the minds of all that repetition would but prove tedious. On that occasion, Dr. Parker expressed the opinion, in which all will agree, that the introduction of this method is probably the most important contribution to surgery since the discovery of anæsthetics.

Translations.

Radical Treatment of Prostatic Hypertrophy.—Prof. Heine (*Langenbeck's Archiv*) has cured six cases of prostatic hypertrophy with iodine-injections, and now recommends the parenchymatous injection of moderately concentrated solutions of iodide of potassium; he states that the operation is not severe, and can be borne by old and weak individuals, because the diminution of the hypertrophied organ takes place without suppuration. When its volume is diminished, the secondary affections of the bladder are also relieved, provided they have not attained a high degree. The operation is performed by placing the patient on his side at the edge of the bed, and introducing the oiled index-finger of the left hand into the rectum to the point where it is intended to make the injection. An exploring trocar is then introduced on the finger, the stilet having been withdrawn into the canula, and the puncture is made. The stilet is then withdrawn from the canula, which is filled with the solution in a syringe. When the canula has been filled, an air-tight syringe is attached to the canula and the injection performed. The median line of the prostate should not be chosen, as a small artery takes its course in this location. The author's solution is: Iodidi potass. ʒ ij, tr. iodinii ℥ ij, aq. destil. ℥ ij.—*Med. Chir. Centralblatt*, 31, 1874. E. F.

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[1] NEW YORK MEDICAL JOURNAL, January, 1875, p. 1.

On the Centre of Respiration.—Gierke (*Pflüger's Archiv.*) instituted new experiments for the more precise determination of the respiratory centre. After exposing the medulla oblongata, in rabbits, he commenced his investigations by making horizontal sections through its whole breadth, and observing the effect of each section. He thus verified the statements of others, that injuries in the region of the calamus scriptorius suspend respiration. Then, in order to experiment on a more limited surface, he destroyed the hypoglossal roots at the posterior apex of the calamus, and the alæ cinereæ, with a bundle of nervous elements which he considered connected with the pneumogastric roots, without attaining any constant positive results. It was otherwise, however, when the furrow between the ala cinerea and the nervous substance within and above it was pierced, for the ribs and diaphragm on the corresponding side were rendered inactive. Thus the author succeeded in ascertaining to be the "respiratory centre" a longitudinal bundle of fine nervous fibres on each side, which had been already previously described, and to which was attributed the origin of the pneumogastric and glosso-pharyngeus roots. This longitudinal bundle is the continuation of fasciculi which branch off transversely from the pneumogastric and hypoglossal roots, and then take a longitudinal course downward to become resolved in the reticular nervous tissue between the anterior and posterior cornua. The calibre of this longitudinal bundle does not become diminished, partly on account of the variable amount of connective-tissue elements, partly from the numerous connections of this "respiratory centre" by fibres with groups of cells, which are looked upon as the roots of the trifacial, pneumogastric, and spinal accessory nerves. The author has also observed fibres by which both longitudinal bundles are connected. Experiments in which the author injured the above-described portions of the medulla oblongata, in several rabbits, confirmed their function as respiratory centres; after operations in which the medulla oblongata was cut without injury to the respiratory centres, the rabbits continued to live, sometimes for several hours. According to the traditional view of physiologists, the author sought a *group of cells*, but failed to find them. Only the sections of both pneumogastric roots resulted fatally; but it is to be conjectured that in this case the longitudinal bundles were also wounded. The author does not consider it essential that we should assume the presence of a group of cells as the "respiratory centre;" for all phenomena of respiration might be explained as reflex actions through the medium of sensitive nerves (trifacial, pneumogastric), which receive their motor significance in the motor cells of the phrenic and intercostal nerves. The respiratory centre is the way by which the sensible irritation is led to the centres of the motor nerves of respiration. E. F.

Anæsthesia by Intra-venous Injections of Chloral.—M. Vulpian reported to the Académie de Médecine (June) that he had frequently employed intra-venous injection of chloral in animals to produce anæsthesia, and that hæmaturia was a frequent result. At a meeting of the Académie de Médecine Belgique (October 3d), MM. Deneffe and V. Wetter communicated their results with this method, for surgical anæsthesia, and reviewed those of M. Oré at Bordeaux. So far eleven cases have been reported. The duration of the injection varies from six to thirteen minutes. The dose of chloral injected varied between 4.50 and 12 grains. Absolute anæsthesia lasted from twelve to thirty minutes. In one case it lasted three hours, after twelve grammes had been injected. The sleep following the anæsthesia is calm, but very prolonged, sometimes continuing a whole day. In these eleven cases neither phlebitis nor hæmaturia was observed. The conclusions arrived at are: 1. That intra-venous injection of chloral does not produce vomiting, and that the patient even craves food after the operation. 2. That the insensibility is not preceded by the period of excitation which is produced by all other anæsthetics. These advantages, combined with the rapidity and certainty of action of this method, cause the authors to recommend it in preference to other anæsthetics by inhalation. Gosselin comments as follows on this method : "Phlebitis, either adhesive or suppurative, coagulation of the blood, difficulty of producing anæsthesia, inquiet sleep, are the dangers presented by the method of M. Oré."—*Gaz. Hebdomadaire*, 41, 1874. E. F.

Apomorphine.—This remedy, which in composition differs from morphine only in having one equivalent less of water, possesses properties totally different from the latter body. It exercises an elective and almost exclusive action on the nervous centres which control vomiting. Employed hypodermically, which is the best way of giving it, it produces vomiting in from six to ten minutes. There is no subsequent sickness or irritating effect on the digestive tract. The dose for adults is 7 to 8 milligrammes, for children 1 to 2 milligrammes. M. Moeller recommends that the first injection should contain 5 milligrammes, to be repeated if vomiting does not ensue. M. Jurasz recommends apomorphine as an expectorant, and administers it in doses of from 1 to 3 milligrammes every two hours.—*Lyon Médicale*, 18, 1874. E. F.

Cure for Warts.—Lisfranc immerses the parts on which the warts are developed in a strong solution of black soap. This causes a slight cauterization of the surface of the wart. The loosened tissue is to be removed and the application repeated every day till the cure is complete. Oil of vitriol should never be used for this purpose; it is very irritating, and inflames the warts instead of curing them.—*Trib. Méd.*, No. 316, 1874. G. R. C.

Pyometra.—G. M. Nordström reported, at a meeting of the Swedish Medical Society, the case of a woman, fifty-five years of age, whose menses had ceased for five years. She suddenly felt a severe pain in the right side of the abdomen, which gradually extended over the whole abdomen, and continued, with fever, for two weeks. The abdomen then began to enlarge, and she had continual bearing-down pains, with a constant desire to urinate. Her strength diminished, and she had several chills.

She was examined six weeks after the commencement of the disease. The uterus was anteflexed and enlarged to such an extent as to reach half-way to the umbilicus. The cervical portion was indurated, and the sound could not be introduced more than three centimetres. Three compressed sponges were introduced, one after the other, and when the last was removed a quantity of thin, stinking, greenish fluid gushed out, followed by a little fresh blood. The sound could now be introduced six centimetres. After a daily injection of a solution of carbolic acid the stinking fluid soon ceased to flow; the uterus rapidly diminished, and after two weeks had nearly regained its normal size. The health of the patient was restored.

Dr. Nordström thinks that an hæmorrhagic endometritis was the cause of the collection in the uterus, and that the obstruction depended partly on the anteflexion and partly on the rigid condition of the cervix.—*Nordiskt Med. Arkiv.*, vol. vi., No. 1. G. R. C.

On Ligature of Ruptured Tendons.—The dread of serious accidents after the introduction of sutures in tendons has long prevented surgeons from employing this treatment. Prof. König published a case of successful suture in tendon with catgut ligature, and hence Dr. Rochelt (*Wien. Med. Presse*) has published his experiments on rabbits. He divided the tendo-Achillis in five rabbits, sewed the cut ends together with carbolized catgut, and then applied an immovable dressing. It appeared that the ligatures were all absorbed; the operation was not followed by any dangerous reaction, and the animals regained complete use of the extremities.—*Med. Chir. Centralblatt.* E. F.

Secondary Traumatic Neuralgia.—At the last meeting of the Congrès Scientifiques, at Lille, M. Verneuil called attention to a complication of traumatic lesions, which, without being very dangerous, is nevertheless painful and capable of retarding the reparative process. During the first days which follow an injury, pains more or less severe are experienced either in the wound, in its vicinity, or even at a great distance from it, which assume a neuralgic character and intermittent type, and cannot be explained by the ordinary causes of traumatic suffering; they resist antiphlogistics and the ordinary narcotics, but readily yield to sulphate of quinine. The author has designated this complication as *secondary traumatic neuralgia.* Pain is the predominant and essential symptom; usually its onset is sudden, and when once developed it may continue or remit; most often it is intermittent in quotidian paroxysms. Occasionally, contractions or a certain condition of powerlessness of the muscles near the injury is observed; also vascular derangements which seem to have connection with the local pain, and may be so considerable as to provoke secondary hæmorrhages. The wound undergoes variable modifications; sometimes it preserves its normal appearance, or it may appear diphtheritic; again, it may be the seat of a true phlegmonous inflammation. These variable conditions are the effect of the neuralgia alone, since they rapidly disappear after the administration of sulphate of quinine. In regard to the cause, the author says that the details do not indicate its dependence on any nervous lesion; he is rather inclined to attribute it to some previous diathesis, moral influence, etc.—*Gaz. Hebdomadaire*, 37, 1874. E. F.

Ergotine Injections in Aneurisms.—Plagge (*Memorabilien*) believes that injections of ergotine may diminish the size of aneurisms, but cannot effect a radical cure. His case was one of a wound of the femoral artery, two fingers' breadth below Poupart's ligament, which resulted in the rapid formation of a traumatic aneurism. Three days after the injury, the author began with subcutaneous injections of ergotine, which were continued for over seven weeks. The aneurism diminished considerably, and was finally cured, after digital compression and Roser's compressor had been employed. E. F.

Ovarian Cysts cured by Iodine-Injections.—Angelo Petersen relates a case of ovarian cyst from which he removed by tapping 4,400 c. c. of fluid, and then injected 150 grammes of a dilute solution of tincture of iodine (about 1–40) which, after remaining two minutes, was again removed by the syringe. The fluid was reproduced and the tapping was repeated three times; that is, once every three or four weeks, but without repeating the iodine-injection. The quantity of fluid removed each time was about the same as at the first, but it gradually became darker, and was not reproduced after the last tapping. The patient was twenty-three years old, single, and the disease had lasted for about twelve years. She had once before been treated by puncturing, by which less than a gallon of fluid was removed. The tumor was of considerable size, and was thought to be a composite cyst, possibly of a fibrous nature, with a short pedicle and extensive adhesions. There was also a solid tumor in the right hypochondrium, which gradually diminished in size. The same author has previously communicated the history of a case of ovarian cyst which was likewise completely cured by puncture and the injection of iodine.—*Hospitals-tidende and Nordiskt Med. Arkiv.*, vol. vi., No. 1. G. R. C.

Miscellany.

Appointments, Honors, etc.—Drs. Edward Curtis and Thomas E. Satterthwaite have been appointed by the Board of Health of this city to investigate the subject of diphtheria. Dr. Jacob D. Wurts, of Paltz, N. Y., is the chairman of the Assembly Health Committee. Dr. P. T. Schenck has been appointed Health-Officer of the city of St. Louis. Dr. R. W. Taylor, of this city, has been elected a Corresponding Member of the Society of Natural Sciences and Medicine of Dresden. The *Peninsular Journal of Medicine* (Detroit, Michigan) is now edited by Drs. John J. Mulheron and Theodore F. Kerr. We understand that Prof. E. S. Dunster has resigned his chair of Obstetrics in the Long Island College Hospital.

Dr. Robert Barnes is said to have relinquished the appointment of Obstetric Physician to St. Thomas's Hospital, in order to fill a similar position in St. George's Hospital. Mr. Prescott Hewitt has resigned his office as Surgeon to St. George's Hospital, London. Dr. Vandyke Carter is at present in the Turkish Archipelago, prosecuting inquiries into the nature and causes of leprosy, which is said to be exceedingly prevalent in Crete. Seventeen chairs are to be founded in each of the two new Medical Faculties of Lyons and Bordeaux. Sir Henry Thompson, in consequence of the pressure of private practice, has resigned his post of Surgeon to University College Hospital, and his professorship of Clinical Surgery in the college. Prof. Gosselin has been chosen President of the Académie de Médecine, Paris, for the coming year. George D. Pollock, M. D., has been elected President of the London Pathological Society for the year 1875, and Dr. Lionel S. Beale, Vice-President. William O. Priestley, M. D., has been elected President of the Obstetrical Society of London. The Soho-Square Hospital for Women, London, is advertising for medical officers. Staff-Surgeon Collan, M. D., has been appointed Senior Medical Officer of the new English Arctic Expedition.

University Medical College.—The Thirty-fourth Annual Commencement of the Medical Department, University of the City of New York, was held at Steinway Hall, Tuesday evening, February 16th, when eighty-nine gentlemen received the degree of Doctor in Medicine. The Valedictory Address to graduates was delivered by Rev. Wm. M. Taylor, D. D.; also a Valedictory Address by F. W. Spaulding, A. B., of the Graduating Class. The following prizes were then awarded:

The Mott Prizes.—The Gold Medal to Alexander Dallas, N. Y.; the Silver Medal to George A. Balcom, Nova Scotia; the Bronze Medal to Franz Heuel, N. Y. Prof. Budd's Prize, for the best examination in Obstetrics, to Charles S. Webb, of Va.; Prof. Loomis's Prize, for the best examination in Pathology and Practical Medicine, to R. J. Heinmüller, of N. Y.; Prof. Thomson's Prize, for the best examination on Materia Medica and Therapeutics, to Frank L. Smith, of Mass.; Prof. Roosa's Prize, for the best examination on Diseases of the Eye and Ear, to K. Kekimian Sewny, of Turkey; Prof. Arnold's Prize, for the best examination on Physiology, to K. H. Sewny, of Turkey; Prof. Elsberg's Prize, for the best examination in Laryngology and Diseases of the Throat, to Alexander Dallas, of N. Y.; Prof. Pallen's Prize, for the best examination in the Surgical Diseases of Women, to J. E. Paine, of Miss.; Prof. Piffard's Prize, for the best record of his lectures, to Alexander Dallas, N. Y.; the James Bryce Prize of fifty dollars, for the best Thesis on a subject relating to Obstetric Medicine, to Henry Furness, of N. Y. Honorable mention was made of Theses written for the Bryce Prize by James L. Nicholson and G. R. Moloney; Prof. Gillette's Prize, for the best record of lectures on Obstetrics, to Franz Heuel, of N. Y.; Dr. Ranney's Prize, for the best record of his lectures, to Anthony Peck, Jr.

Jaborandi.—The *London Medical Record* of February 3d gives a summary of the results obtained by Féréol, Ringer, Gould, and Tweedy, in their experiments with jaborandi. It seems to be proved conclusively that the drug has the power of increasing enormously the perspiration and the flow of saliva, and in a less degree the secretion from the mucous membrane of the nose, the bronchial tubes, and the stomach and intestines. It has also a decided influence in promoting the secretion of milk, as shown by Dr. Ringer's experiments on a number of nursing-women. In many respects the action of jaborandi is the opposite of that of belladonna, though both drugs agree in flushing the face and quickening the pulse. M. Robin is of opinion that jaborandi lessens arterial tension by dilating the arterioles and thus allowing the blood to pass more quickly from the arteries to the veins. The dose given in the experiments alluded to varied from thirty to sixty grains.

A New Medical Venture.—We have received the first of a series of clinical lectures, to be published by Geo. P. Putnam's Sons, and edited by Dr. E. C. Seguin. The subject of the first issue is a lecture of Prof. Sayre, on morbus coxarius. If the editor can furnish a succession of papers of equal merit to this, the success of the enterprise will be assured.

An Ether-Revival in England.—We are glad to see that the English medical journals are taking up in earnest the question of the superior safety of ether to chloroform as an anæsthetic. The only wonder is, that English surgeons have so long ignored American experience in this matter. We do not like to imagine that prejudice can have had any thing to do with it; yet, with a comparatively safe anæsthetic within reach, the London hospitals go on year after year furnishing victims to chloroform, as if its administration were an absolute necessity. The utmost that can be said in favor of chloroform is, that a few minutes' time may be saved by its use; but with good ether, properly administered, even that small advantage is questionable. Vomiting afterward is perhaps more frequent when ether is used, but it is by no means the rule, and it does occur sometimes in using chloroform. Those who doubt whether profound anæsthesia can be easily induced and maintained by ether, must have had very little personal experience in its use. We can assure our foreign brethren that the various complicated methods proposed—of beginning with nitrous-oxide gas, of supplementing the ether with chloroform, of using cumbersome inhalers—are wholly superfluous, and we recommend them to try simply an abundance of ether, and if it is of good quality they will not be disappointed with the result. The hesitating, timid method in which we have seen ether given abroad, when given at all, we suspect to be the reason why it has proved unsatisfactory on occasional trials. There is certainly some art in its proper administration.

The Kentucky School of Medicine.—This school has been reorganized, and will hereafter give a spring course of four months, beginning March 1, 1875. The following is the Faculty: A. B. Cook, M. D., Principles and Practice of Surgery, and President of the Faculty; L. J. Frazee, M. D., Materia Medica and Pharmacology; H. M. Bullitt, M. D., Physiology and Public Hygiene; E. S. Gaillard, M. D., Principles and Practice of Medicine and General Pathology, and Dean and Treasurer of the Faculty; John A. Octerlony, M. D., Therapeutics and Clinical Medicine; John Goodman, M. D., Obstetrics; J. A. Ireland, M. D., Diseases of Women and Children; J. M. Keller, M. D., Operative and Clinical Surgery; C. W. Kelly, M. D., General and Surgical Anatomy, and Regent of the Faculty; C. W. Wright, M. D., Chemistry; George J. Cook, M. D., Demonstrator of Anatomy; D. F. Powell, M. D., Assistant Demonstrator. With this large and experienced corps of teachers, there is no reason why the reorganized school should not attain a success worthy of its ancient reputation.

A Substitute for Castor-Oil.—Dr. J. C. O. Will, in the *Medical Times and Gazette*, recommends a fluid-extract of the bark of the *Rhamnus frangula*, as an efficient and agreeable aperient, particularly applicable to cases in which castor-oil is generally given. He believes, from considerable experience with the new remedy, that it possesses tonic and aromatic qualities which render it very serviceable in habitual constipation. The flavor is not unpleasant, and hence it can be easily given to children. It produces loose but never watery stools, and causes no griping. The dose for adults is about two drachms and a half. The therapeutic properties of the *Rhamnus frangula* are very different from those of the *Rhamnus catharticus*, which is an active and irritant cathartic.

Bacteria and Putrefaction.—Dr. Arnold Hiller, of Berlin, has made a series of elaborate experiments with the view of determining the relations of bacteria to putrefactive changes, and has come to the conclusion that the whole subject needs to be reëxamined from the beginning. He has demonstrated that active putrefaction may take place in the absence of bacteria, and that bacteria may be present in abundance without giving rise to putrefaction. In short, it seems quite possible that effect may have been mistaken for cause.

Journalistic Enterprise.—Dr. E. S. Gaillard, the indefatigable editor of two medical journals, offers to subscribers to the *Richmond and Louisville Medical Journal* for 1875, twelve handsome portraits of distinguished physicians. Subscribers to the *American Medical Weekly* will receive two of the same portraits during the year.

Chloral Anæsthesia.—Prof. Oré is persevering with the use of chloral, injected into the veins, to produce anæsthesia. He reported two successful cases lately to the Académie des Sciences. In one, diseased bone was removed from the tibia, and in the other ovariotomy was performed. Dr. Oré now adds a few drops of solution of carbonate of soda to a mixture of one part chloral and four parts pure water. Dr. Lande, however, reports a case of death from the injection of five grammes of chloral after Prof. Oré's method.

Alumni Prize.—At a recent meeting of the Council of the Alumni Association of the Bellevue Hospital Medical College, it was voted that an annual prize be established for the best thesis submitted by an alumnus. The contesting papers are to be placed in the hands of the President of the Association before January 1st of each year, and are to be accompanied with a sealed and marked envelope containing the name of the writer; the thesis bearing a mark corresponding to that on the envelope. The decision of the judges will be declared at the time of the annual graduating exercises of the school.

Corrections.—An error occurred in our report of the proceedings of the New York Pathological Society in the December number, 1874, p. 639. The case of ruptured bladder operated on two years ago by Dr. Erskine Mason recovered completely. It was another patient, whose bladder was presented by Dr. Mason that night, who died in forty-one days.

In the report of the same Society, page 181, January number, 1875, the case of removal of a sarcoma of the iris without injury to the sight should have been ascribed to Dr. C. J. Kipp, of Newark, N. J., instead of to Dr. Knapp.

Medical Association of the Eastern District of Brooklyn.—At the annual meeting of this Association, held January 21, 1875, the following officers were elected: President, J. A. Jenkins, M. D.; Vice-President, W. G. Russell, M. D.; Secretary, G. P. Griffing, M. D.; Treasurer, W. P. Morrissey, M. D.; Librarian, J. H. La Roe, M. D.; Delegate to American Medical Association, W. F. Sanford, M. D.

The Rotunda Lying-in Hospital, Dublin.—Dr. George Johnston, master of this hospital, reports that during the year ending November 5, 1874, there were 1,236 deliveries in the institution and only fifteen deaths, including nine from zymotic diseases. In addition, 153 patients were delivered in their houses. Forceps were applied in 138 cases, 105 being primiparæ. Such a report speaks well for the general management of the hospital.

American Microscopical Society.—At the annual meeting of the American Microscopical Society the following officers were appointed for the ensuing year: President, John B. Rich, M. D.; Vice-President, W. H. Atkinson, M. D.; Secretary, C. F. Cox; Treasurer, Prof. T. L. Orenieu; Curator, William Dean.

A Hint to Arctic Explorers.—A member of the naval service suggests the use in arctic expeditions of a flat spirit-lamp, fitted to the sacrum, and having a tube running up the spine to the occiput. The *Lancet* advises the inventor to experiment on his own person, and report progress.

Chicago Medical Register.—The medical profession of Chicago has founded a Medico-Historical Society, having for its principal object the publication of a Medical Register for that city. Dr. R. C. Hamill was elected president, and Dr. A. R. Jackson, editor.

What has Vivisection done for Medical Science?—

A. *It has succeeded in advancing our Knowledge of Physiology, by*—

1. Discovery of the two classes of nerves, sensory and motor, by Sir Charles Bell.
2. Discovery of the functions (motor) of the *portio dura* of the seventh pair by Sir Charles Bell. Previously to this discovery, the *portio dura* was often cut by surgeons for the cure of neuralgia!
3. Discovery of the functions of the anterior and posterior roots of the spinal nerves by Sir Charles Bell.
4. Discovery of the functions of the anterior and posterior columns of the spinal cord by Brown-Séquard and others.

5. Discovery of one of the functions of the cerebellum in coördinating muscular movements by Flourens and others.

6. Discovery of the functions of the gray matter on the surface of the cerebral hemispheres as connected with sensation and volition by Flourens, Magendie, etc.

7. Discovery of the motor functions of the gray matter covering certain convolutions in the anterior part of the cerebral hemispheres by Hitzig, Fritch, Ferrier, Gudden, and Nothnagel.

8. Demonstration of the circulation of the blood by Harvey.

9. Measurement of the static force of the heart and discovery of other hydraulic phenomena of the circulation by Stephen Hales, Ludwig, etc.

10. Discovery that atmospheric air is necessary to the maintenance of life, and that, when stupefied by its withdrawal, animals may be resuscitated by readmitting it, by Robert Boyle in 1670.

11. Discovery that atmospheric air by continued breathing becomes vitiated and unfit for respiration, by Boyle.

12. Discovery that the air was not only vitiated but also diminished in volume by the respiration of animals, by Mayou in 1674.

13. Discovery of the relation, as regards respiration, between animal and vegetable life, by Priestley in 1722.

14. Great discoveries by Lavoisier on the physiology of respiration from 1775 to 1780: namely, that respiration acts only on the respirable portion of the air, or oxygen, while the remainder, nitrogen, is entirely passive in the process; secondly, that when animals are confined in a limited space, they die when they have absorbed, or converted into carbonic acid, the greater part of the oxygen, and so reduced the air to the state of an irrespirable gas.

15. Numerous facts in the physiology of digestion observed by Blondlot, Schwann, Bernard, Lehmann, and others, by experiments on animals.

16. The discovery of the functions of the lacteals by Colin, Bernard, Ludwig, and others.

17. The discovery of the functions of the eighth pair of nerves in relation to deglutition, phonation, respiration, and cardiac action, by John Reid and others.

18. The discovery of the functions of the sympathetic system of nerves by Pourfour du Petit in 1727, Dupuy in 1816, Brachet in 1837, John Reid, and Brown-Séquard.

19. The discovery of the phenomena of diastaltic or reflex action by Marshall Hall.

20. The discovery of the action of light on the retina by Homgren, Dewar, and McKendrick.

21. The discovery of the glycogenic function of the liver by Bernard, Macdonnell, Pavy, etc.

22. The discoveries of the whole series of facts in the domain of electro-physiology by Matteucci, Du Bois-Reymond, Pflüger, and many others. These discoveries have important practical bearings.

B. *In aiding Medicine and Surgery.*

1. The transfusion of blood, and introduction directly into blood of medicines; first proposed by Robert Boyle in 1665. In 1665 Lower transfused blood from vessels of one animal into those of another. First done in human being by Dennis and Emmerets in France in 1666. Blundell's celebrated experiments on animals in 1818. Since done by many others—Dumas, Milne-Edwards, Dieffenbach, Bischoff, Doubleday, Brigham, Waller, Burton Brown, Klett, Lane, Lavy, Bérard, etc.

2. Artificial respiration. Vesalius showed that by blowing up the lungs with air, after the chest was opened, stoppage of the heart's action might be delayed for some time. Hook in 1664 first demonstrated the possibility of artificial respiration. Brodie, Hope, Le Gallois, Wilson Philip, Marshall Hall, and Silvester, have practised it on human beings.

3. The causes of the cardiac sounds have been determined entirely by vivisectional experiments.

4. Phenomena of the circulation within the cranium examined experimentally by Kelly, Burrows, Reid, etc.

5. Hunter's operation for aneurism was first demonstrated and tried on living animals. This he did in 1785. He also found by experiments on animals that in many cases the arterial coats were diseased immediately above the aneurism, and that consequently it was necessary, in order to avoid secondary hæmorrhage, to place the ligature higher up.

6. The office of the periosteum in regeneration of bone has been demonstrated experimentally by Du Hamel in 1740, Hunter in 1772, Syme in 1837, Wagner in 1853, and Leopold Ollier in 1858. The practical importance of these observations is recognized by all surgeons who have had much to do with diseases of bones and joints.

7. The researches of Redfern into disease of cartilage.

8. The researches of Stricker, Cohnheim, Von Recklinghausen, and many others on inflammation, more especially of cornea and serous membranes.

9. Without vivisection experiments, we would know very little of the phenomena of inflammation.

10. Experimental inquiries into many zymotic diseases showing occurrence of micrococci.

C. *In advancing Therapeutics, Relief of Pain, etc.*

1. Use of ether.
2. Use of chloroform.
3. Chloral, discovered experimentally by Liebreich.
4. The actions of all remedies are only definitely ascertained by experiments on animals.
5. Action of Calabar bean, by Fraser.
6. Antagonism between active substances and the study of antidotes—many observers.

The above are simply examples which have readily occurred to the mind. To record all the facts given to physiology by experiments on animals would simply be to write the history of the science. Therapeutics is yet in its infancy; but nearly all the facts definitely known regarding the actions of remedies have been gained by experiments on animals. To stop experiments on animals would as surely arrest the progress of physiology, pathology, and therapeutics, as an edict preventing the chemist from the use of the retort, test-tube, acids, and alkalies, would arrest the progress of chemistry.—*British Medical Journal*, January 9, 1875.

Indications for Thoracentesis.—In a communication on the subject of pleuritic effusion (*British Medical Journal*), Dr. J. R. Wardell, of Tunbridge Wells, thus states the conditions which may be regarded as the morbid states, and the positive and negative signs, demanding the operation:

1. In all cases in which inspection and the physical signs give evidence of a large quantity of fluid, when there are symptoms of compression of the lung, and there is manifest cardiac displacement.
2. When there are urgent dyspnœa, an irregular pulse, and threatening of orthopnœa.
3. When the affected side is smooth and rounded, and the intercostal spaces are effaced or protrude; when measurement proves bulging; when the dullness in the chest is complete, or demarcated, and absolute; when there is abolition of tactile fremitus; when there are broncho-phonic voice, tubular breathing, and absence of breath-sound; when the patient can only lie on one side, or in diagonal position; and when there is the Hippocratic sign of succussion.
4. When the exploratory needle proves the fluid to be purulent.
5. If the heart be pushed from its normal situation, and the apex be substernal or beyond the right sternal edge, or if it be thrust toward the left hypochondrium, or if it be lost;

when it becomes presumptive that the organ has been driven inward and backward; and when on the one side the liver depends abnormally into the abdomen, and when on the other side the relaxed and down-pressed diaphragm so displaces the spleen that its free edge can be *felt*.

6. When half the thoracic cavity is filled, and a month or so shows no proof of absorption, the longer the delay the less are the chances of expansion.

7. In those exceptional cases of double pleurisy when both cavities become half filled with effusion, and dyspnœa shows the lung-space to be dangerously encroached upon.

8. In pulmonary phthisis, when the accumulation of serous or sero-purulent secretion causes distress, and when the other lung assumes the symptoms of bronchitis or pneumonia, the operation should at once be performed.

9. In mechanical hydrothorax it may be had recourse to, though with no object to cure, but with merely a view for a time to prolong life and to aid the action of medicinal remedies.

10. In children, whose chest-walls are thin, and in whom the white tissues are more developed and confer greater resiliency to the thoracic parietes, and whenever there are certain evidences of fluid, it should without delay be evacuated.

11. In hydropneumothorax it may be generally with safety and benefit employed.

12. Pointing externally should never be waited for.

13. Under certain circumstances repeated tappings are required.

Standard Weights and Measures.—The American Meteorological Society, at its annual meeting, held at the Cooper Institute in this city on the 28th of last month, adopted the following resolutions:

Resolved, That this Society highly approves of the plan which has been set on foot among the members of scientific professions in the United States to secure a general consent to the adoption of the metric measures and weights in their professional practice after July 4, 1876.

Resolved, That the members of this Society will, as far as they may be able, employ their personal influence in aid of the plan above mentioned.

Resolved, That a committee be appointed to recommend the erection in the various State capitals of a standard yard and metre, to be provided by the Bureau of Weights and Measures of the United States.

The Structure of Tumors.—In some observations on the structure of tumors, published in the *British Medical Journal*, Mr. W. S. Savory, of St. Bartholomew's Hospital, says that the tissues which are simplest in structure and mode of development are most apt to form the substance of tumors. The most elaborate tissue in these respects—striated muscle—is rarely found as a distinct morbid growth, and it is rare to find even unstriped muscle as a separate mass in the substance of tumors. In the elementary structures of tumors, there is an inverse ratio between the tendency to progressive metamorphosis and the tendency to reproduction. The less the structures of which a tumor is composed tend to change from their primary or embryonic form, the more abundantly will they multiply; so that those tumors whose structures retain most nearly their primary form are the most malignant. And, as the structures of a tumor are capable of transformation, so do they lose their power of repetition; so that those tumors which consist most completely of fully-formed tissue are the most innocent.

Mr. Savory objects to the use of the term sarcoma, which, he says, is very unfortunate—firstly, as reviving an old term once vaguely applied to all sorts of tumors about which nothing was known; and, secondly, as being either quite meaningless, or, if it means any thing, as tending to mislead.

Tolerance of Morphia.—At a meeting of the Baltimore Medical and Surgical Society, Prof. Arnold related the case of a young man, now in the Washington University Hospital, who takes from ten to twelve grains of morphia daily. He fell from a trapeze, on which he was performing, and injured his spine. He suffers intense pain, and life is miserable without morphia. He would like to abandon its use, but cannot find a substitute which will make the pain endurable. His health does not seem at all impaired by the opiate. De Quincey and Coleridge lived to a good old age, and it would seem that opium of itself does not have such a deleterious effect on the digestive system as we have been led to believe. Dr. Wilkins said that he knew a lady who uses sixty to ninety grains of morphia daily. There is no impairment of digestion.—*Cor. Philadelphia Medical Times.*

Ages of Scientific Men.—Judging from the roll of the Royal Society, the pursuit of science does not appear to be detrimental to health. From the death-roll, the total number of deaths, from November 30, 1873, to November 30, 1874, was fourteen. Of these, three were under 70 years; five—Sir W. Jardine, Sir J. R. Martin, Prof. J. Phillips, Sir F. Smith, and E. H. Stirling—were between 70 and 80; five between 80 and 90 years; and one, Sir G. Rose, 94 years. Looking at the last five, we see that Sir John Rennie died at 81, Prof. R. E Grant at 82, Sir W. Fairbairn at 83, and Dr. Arnot and the Rev. J. W. Bellamy, each at 86. These are remarkable facts, suggestive of matter for consideration. The present number of the Society is 525, of whom Sir Edward Sabine is now the father. He was elected a Fellow in 1818, and is the last of the men elected within the second decade of the century. Of Fellows elected within the period 1820–'29, there remain eighteen, who now take rank as veterans. Among them we remark the names of Thomas Ball, Dr. Bosworth, Sir John Davis, the Duke of Devonshire, the Earl of Enniskillen, Earl Stanhope, the Dean of Salisbury, Sir J. G. S. Lefevre, Sir Woodbine Parish, Mr. G. P. Scope, Sir G. Shuckburgh, and Sir R. Vyvyan. In this list of veterans Sir J. Lefevre takes precedence, having been elected in 1820.—*British Medical Journal.*

Sciatica cured without Medicine.—Dr. I. Pretz (*Wiener Medizinische Presse*) gives as his personal experience the following facts: Having an attack of sciatica for six months, he tried all the ordinary remedies, with no avail. Observing that his attacks were slighter after eating, he determined to eat as often as the pain recurred. This was often twelve times in twenty-four hours. He constantly improved under this treatment, and in about two months entirely recovered. Two other cases were afterward treated with similar results. He accounts for the result by the development of heat from the food and drink.—*Philadelphia Medical Times.*

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from January 14 *to February* 13, 1875.

Baily, J. C., Surgeon.—Granted leave of absence for one month, provided he furnishes a suitable substitute during his absence. S. O. 11, Department of the South, January 27, 1875.

Bache, Dallas, Surgeon.—Temporarily assigned to duty at Baltimore, Md., as Attending Surgeon and Examiner of recruits. S. O. 16, A. G. O., January 26, 1875.

Knickerbocker, B., Assistant Surgeon.—Temporarily assigned to duty at Fort Vancouver, until the season will admit his joining his proper station, Fort Colville, W. T. S. O. 5, Department of the Columbia, January 11, 1875.

Kinsman, J. H., Assistant Surgeon.—Assigned to duty at Fort Seward, D. T., until further orders. S. O. 9, Department of Dakota, January 16, 1875.

Bentley, Edwin, Assistant Surgeon.—To proceed to Camp Bidwell, Cal., for temporary duty at that post, and, upon its completion, to return to his station in San Francisco, Cal. S. O. 11, Department of California, January 25, 1875.

Cronkhite, H. M., Assistant Surgeon.—Assigned to temporary duty at Fort Yuma, Cal., and, when relieved by Assistant-Surgeon Loring, assigned to duty as Post-Surgeon at Camp Verde, A. T. S. O. 113, Department of Arizona, December 26, 1874.

Heizmann, C. L., Assistant Surgeon.—Granted leave of absence for six months, with permission to go beyond sea. S. O. 13, A. G. O., January 20, 1875.

Rose, George S., Assistant Surgeon.—Granted leave of absence for one month. S. O. 24, A. G. O., February 8, 1875.

Wilson, A. D., Assistant Surgeon.—Assigned to duty at Camp McDowell, A. T., as Post-Surgeon. S. O. 2, Department of Arizona, January 7, 1875.

Moseley, E. B., Assistant Surgeon.—Assigned to duty at Mobile Barracks, Ala. S. O. 4, Department of the South, January 14, 1875.

Jackson, D., Assistant Surgeon.—Assigned to temporary duty at Fort Concho, Texas. S. O. 10, Department of Texas, January 18, 1875.

Semig, B. G., Assistant Surgeon.—To report to the commanding officer of the Presidio of San Francisco for such duty as he is able to perform. S. O. 10, Department of California, January 23, 1875.

Skinner, J. O., Assistant Surgeon.—Leave of absence extended one month, with permission to apply to the headquarters of the Army for a further extension of three months. S. O. 7, Military Division of the Pacific, January 12, 1875.

The Medical Examining Board in session in San Francisco, California, is dissolved, and the members thereof will rejoin their proper stations. S. O. 17, A. G. O., January 28, 1875.

Obituary.

Edward Delafield, M. D., LL. D., died at his residence in this city, February 13th. He was born in New York, May 17, 1794, and was of English descent. He graduated from Yale College in 1812, and four years later obtained his medical degree from the College of Physicians and Surgeons, New York. After a visit to Europe for purposes of study and observation, he returned to this city and engaged in practice. In connection with the late Dr. J. Kearney Rodgers, he founded the New York Eye Infirmary, which was organized April 21, 1821, under the presidency of William Few, Esq. In 1834 Dr. Delafield was appointed one of the attending physicians to the New York Hospital, a position which he held for four years. In 1825 he was appointed Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, and continued to fill the chair with signal ability until the year 1838, when his increasing private practice obliged him reluctantly to resign both his professorship at the college and his position at the hospital. In the year 1842 he became the founder of the Society for the Relief of the Widows and Orphans of Medical Men, of which he was the first President, and to the management of whose affairs he always devoted much of his time. In 1858 he was elected President of the College of Physicians and Surgeons, a position which he held at the time of his death. As President of the college he became a member of the Board of Governors of the Roosevelt Hospital, of which board he was the President. He was chairman of the Building Committee of the Hospital, and devoted himself unsparingly to the details of the building and the organization of the institution. As a teacher Dr. Delafield was clear, methodical, and emphatic. As a practitioner he enjoyed a high degree of popularity for many years. As a high-toned gentleman, of the old school, he had a host of friends who will mourn his loss.

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Original Communications.

ART. I.—*A Study of the Normal Movements of the Unimpregnated Uterus.* By ELY VAN DE WARKER, M. D., Syracuse, N. Y.

THE following paper is written in the interests of exact methods of investigating gynæcological subjects. It is an attempt to obtain data having mathematical value, and thus raise many of the questions in diseases of women above the plane of pure speculation and theory.

While preparing my instruments for these investigations, I was in great doubt as to the practicability of this method of study in private practice; but, when I had arranged my gynæcological laboratory ready for work, I found that my charity cases were, without exception, perfectly willing, and many of them appeared to take a deep interest in the results of my observations. That difficulty, then, was more imaginary than real. The real difficulty was in procuring a sufficiently large number of subjects to give me facts for induction. This difficulty by perseverance was partly overcome. While employed in this work I have caught glimpses of fields in which I think many facts may be gleaned by manometrical methods of observation.

As the manometers employed in these observations differ somewhat in construction from those generally in use in physiological laboratories, and as a knowledge of the instruments used is necessary to a correct idea of the significance of the curves and tables, I shall give them a brief description :

Fig. 1.

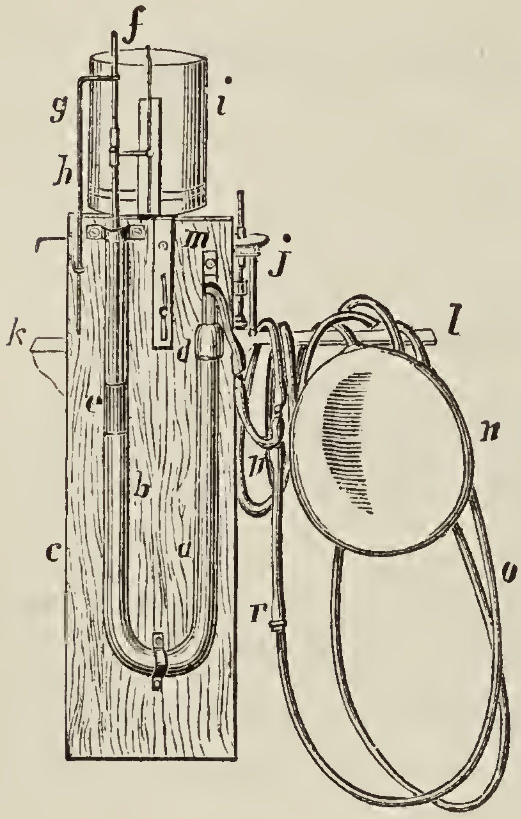


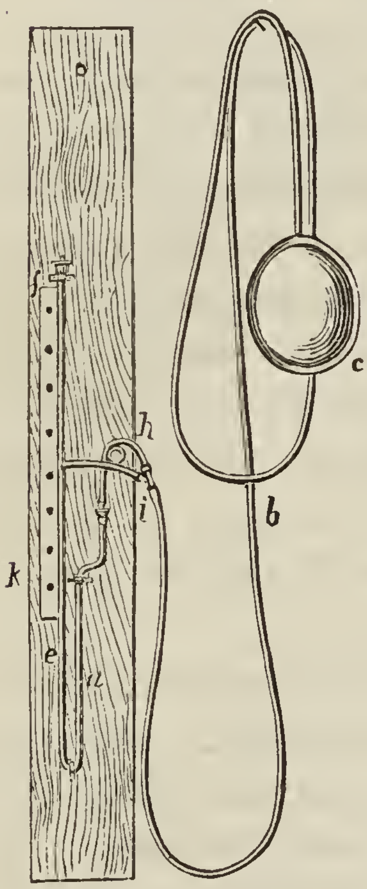
Fig. 1 is the recording mercurial manometer ; *a* is the proximal and *b* the distal arm of an evenly-bent glass tube, three-tenths of an inch in diameter, filled up to the height *b*, with properly-cleaned mercury. The tube is firmly secured to a hard-wood block *c*, which rests in a slot in a heavy brass tripod base. The arm *a* terminates at *d* in a brass cap, with a tube bent at a right angle to the axis of the tube, over which the rubber tubing is fitted. Upon the mercury in the distal side of the tube at *b* rests an ivory float *e*, to which is attached an ivory rod *f*, which passes through a guide *g*. The pen *h* is secured to the rod *f* by means of a brass slide and a slender rubber band so that it can be placed at any height upon the rod, and which presses against the cylinder *i*, by a delicate spring to be seen in the cut. The cylinder is moved by the clock-work partly seen at *j*. The clock-work rests upon a brass bracket *k*, and which extends in the arm *l*, upon which arm the clock-work and cylinder can be moved, when it becomes necessary to record the movements of the mercury, by means of a lever. The cylinder, as in the figure, is in position for direct record of the movements of the mercury. The lever can be attached by means of the brass fulcrum *m*, which is represented inverted in the figure. The water-bag *n* (holding about ten fluidounces) is made of strong rubber and communicates with the arm *a* of the manometer by means of the rubber tubing *o*, about six feet long, divided in two short branches, *p*, which communicate with the manometer, and *r*, which terminates in a brass cap by means of which connection is made with the measuring manometer, or original pressure-gauge, Fig. 2.

An observation is taken with the recording instrument as follows: The cylinder *i* is covered with a strip of paper, which is then smoked over the flame of a petroleum-lamp and placed in position upon the clock-work. The water-bag *n* is rolled up and carefully placed in the vagina, its upper part being placed in the posterior vaginal *cul-de-sac.* A clip is placed upon the branch *r* of the tube, and a Davidson syringe connected with the branch *p;* the water-bag is then filled with water at 80° Fahr. Distend the bag so that the subject complains of the sense of pressure, taking care that it is not sufficient to cause pain. This is important—if pain is induced it is difficult to get the subject to take part in the experiment. Measure the amount of vaginal tension upon the manometer, Fig. 2, connecting by means of the branch *r*, and removing the clip. The amount of pressure to secure correct tracings varies with the subject, and it is necessary to take several tracings at different pressures in order to test its effect upon the curves. Usually from seven-tenths to one inch is the pressure which affords the best tracings. Should there be an excess of tension indicated by the gauge, water may be allowed to escape from the branch *p* until the mercury stands at the level required. The clip is again placed upon the branch *r* and one also upon the branch *p*, until connection is made with the tube *d* of the manometer. The pressure upon the water-bag forces up the mercury in the distal side of the tube, so that it is necessary to adjust the pen upon the rod *f*, and the instrument is ready for work.

Fig. 2.—This instrument is also a manometer intended to measure expulsive force or vaginal contractility. *a* is the proximal and *e* is the distal limb of a bent-glass tube filled with mercury to the point *k*. The tube is securely fastened to a black-walnut block, twenty inches long, upon which, and by the side of the distal limb of the tube, is secured a scale *f*, divided into inches and tenths. The tube *a* ends in a brass cap, which is fitted with an air-tight coupling like that of an hypodermic syringe, the female part of which is in the branch *h* of the rubber tube. The scale *f* is graduated upward and downward from the zero-point, which is at *k*. The water-bag *c*, the rubber-tube *b*, and the branch *i*, are the same as those described in Fig. 1.

In taking a measurement with this instrument, the water-bag is used in the same way as in the recording instrument, except that in placing it in the vagina it is not forced up into the posterior *cul-de-sac.* In filling the water-bag, care must be taken not to over-distend the parts and thus cause pain. When the bag is sufficiently filled and connection is made with the proximal side of the instrument, the mercury is seen to rise in the distal side an inch or possibly less. This is caused by what I term initial contractility; that is, it is the contractile effort of the vagina alone, and is present in whatever position the subject may be placed. I think the following observation proves that this pressure is due to vaginal contractility alone, and I detail it here, for I wish the few terms I have employed in this paper to be beyond dispute. Place the subject for observation in the left lateral prone position; we have thus as nearly as possible in the living subject eliminated the action of the abdominal muscles and the pressure of the viscera. Introduce the water-bag and distend it so that the pressure, when connection is made with the gauge, is indicated by one inch of mercury. The instrument is so placed that its zero-point is about a foot above the operating-chair upon which the woman is lying. Then remove the clip from the branch *i*, and the water will slowly escape, the mercury rapidly falling in the tube. When the mercury rests at zero, without oscillating, remove the bag from the vagina, and it will be found to contain but a drachm or two of water. It is mathematically certain that nothing but vaginal contractility could have emptied the bag and overcome the column of water in the tube.

FIG. 2.



In using this form of manometer for measuring pressure, the instrument ought to be suspended so that the zero of the scale is upon the same level as the pelvis of the woman; otherwise there would be a correction in the reading for difference in level. After perfect connection is made between the vaginal part of the apparatus and the manometer, note the height of the mercury from initial vaginal contractility, and deduct it from the various readings made during the observation. The result will be the pressure for any given act observed. If the zero-point is a foot or more above the chair upon which the woman is lying, it will be necessary to add to the height of the mercury the weight of the intervening column of water in order to get at the correct pressure.

The manometrical method of study has been employed in all physiological investigations since Ludwig, in 1848, introduced the kymograph, and has now developed into a method commonly known as the graphic.

Dr. Friedrich Schatz, of Leipsic, in 1871, employed this method very successfully in investigating the physiology of parturition;[1] and by its means obtained new data for estimating the forces engaged in this act. I am not aware that the graphic method was employed in this study previous to Dr. Schatz's use of it, nor do I know of its employment to investigate non-gravid uterine movements previous to my own. It does not seem possible to devise any more perfect means to measure and permanently record rapidly-fluctuating pressure than the mercurial manometer.

In gynæcological measurements in which we are dealing with small and constantly-changing forces it answers every purpose, recording movements unappreciable to the eyes, and thus eliminating personal equation, an important matter in estimating minute variations. Schatz says: "Die Exactheit der Manometermessung an sich ist von der Physik her bekannt. Man hat kein besseres Mittel den Druck zu bestimmen. Alle anderen Mittel werden erst nach diesem abgetheilt und corrigirt. Auch in der Physiologie bewährte sich die Anwendung der Manometermessung seit lange so volkommen, dass man sie überall gebraucht."

The Forces causing Minor Uterine Movements.—These forces appear mainly to be traceable to two sources:

I. Contraction of the abdominal muscles.

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[1] "Beiträge zur physiologischen Geburtskunde," Archiv für Gynaekologie, H. I., B. 3, p. 58, 1871.

TABLE I.—*Sexual History of Subjects of Observations.*

Number.	Age.	Married or single—M. S.	No. of children.	No. of abortions.	State of gen'l health.	MENSTRUATION.			URINARY ORGANS.			Leucorrhœa.	Condition of vagina.	UTERUS.			Condition of rectum.	REMARKS.
						Frequency, days.	Duration, days.	Symptoms attending.	Bladder.	Character of urine.	Micturition.			Position of.	Depth of cavity.	Pathological condition of cervix or body.		
1	23	M.	1	..	...	...	...	...	...	...	...	..	...	...	...	...	...	Cured of endo-cervicitis.
2	38	M.	3	2	bad	28	5	painful	...	mucous deposit	frequent	1	inflamed	...	2½	inflam. cervix	...	Specific vaginitis, a. adhesions.
3	38	M.	6	..	good	28	3	painful	...	...	...	1	...	antever.	3	indurat'n	...	
4	44	M.	3	..	bad	60	1–10	painful	irritable	...	frequent	1	cystocele	anteflex.	2¾	...	...	Complete.
5	30	S.	..	2	fair	21	4	...	...	...	...	1	...	...	3	ulcer c. granular	...	Endo-cervical catarrh.
6	26	M.	1	..	good	42	3	...	...	...	...	..	...	...	...	...	...	Supposed herself pregnant; not so.
7	34	M.	7	..	impaired	28	3	...	irritable	scanty, high col.	...	1	cystocele	prolaps.	3	patulous os	...	
8	23	M.	1	..	good	28	5	...	...	...	...	..	...	...	...	...	...	Just cured, erosion of cervix.
9	28	M.	2	..	impaired	20–30	1–5	...	irritable	...	frequent	1	...	retrover.	2¾	ulcer c. granular	hæm'r'ds	
10	25	M.	2	3	impaired	28	7	bearing down	...	...	...	1	cystocele	prolaps.	3¼	...	rectocele	Complete.
11	28	M.	..	..	...	28	4	...	...	...	...	1	...	...	3	...	...	Endo-cervic'l cat'rh, cur'd.
12	25	M.	..	..	good	28	3	...	...	...	...	1	...	...	2¾	...	...	Endo-cervical catarrh.
13	33	S.	..	1	good	28	7	painful	...	...	...	1	...	antever.	2½	granular erosion	...	Uterine version slight.
14	42	M.	5	..	impaired	28	6	painful	irritable	mucous deposit	frequent	1	cystocele	prolaps.	3¼	erosion	hæm'r'ds	Four years' standing, complete.
15	19	S.	..	..	good	28	5	painful	irritable	...	frequent	1	...	...	2½	...	...	
16	24	S.	..	..	impaired	21	4	painful	...	...	...	..	...	...	...	...	ulcerated	
17	27	M.	1	1	good	28	6	...	...	...	...	1	...	...	3	...	...	

NOTE.—The first column of this table is referred to by number in all other tables and in the description of the curves.

II. Visceral (abdominal) pressure.

1. The first cause is operative to a great but varying extent, and can be seen in voluntary expulsive effort (Fig. 13). In describing the curve due to this act, I have in another part of the paper briefly described the action of the abdominal muscles which will suffice; but I wish to call attention to Table II., in which two classes of forces are tabulated: vaginal pressure—which I term initial vaginal contractility in different positions of the body—and voluntary expulsive force in different positions. The second division of the table illustrates the action of the abdominal muscles. The water from the branch *i*, Fig. 2, is allowed to escape with the subject lying upon the back until the mercury stands at zero; the horizontal position is therefore assumed in the table as the zero position. It will be observed that in the columns headed "lying," "sitting," "standing" there is a marked difference in straining or expulsive force exhibited.

TABLE II.—*Vaginal Pressure and Vaginal (pseudo) Voluntary Expulsive Force in Different Positions, expressed in Inches and Tenths of Mercurial Pressure.*

No. of subject.	Distention in fluid ounces.	VAGINAL PRESSURE IN				VAGINAL VOLUNTARY EXPULSIVE FORCE IN			
		Zero position —lying on the back.	Sitting.	Standing.	Squatting.	Lying.	Sitting.	Standing.	Squatting.
10	7	.0	.5	1.	.2	.7	1.3	2.	.5
3	6	.0	.6	1.1	.3	.8	1.5	1.7	.6
9	6	.0	.7	1.4	.3	1.	1.8	2.5	.9
4	8	.0	.6	.8	.2	.9	1.4	2.	.6
12	5.5	.0	.8	1.2	.5	1.2	1.9	3.	.7
13	6	.0	.9	1.5	.2	1.3	2.	3.8	.8
11	5	.0	.6	1.	.3	.9	2.	2.9	.6
7	7	.0	.5	1.	.4	.8	1.4	2.	.5
14	8	.0	.6	.9	.2	.7	1.2	1.4	.3

NOTE.—The figures in the first column correspond to the figures in the first column of Table I., so that the sexual history of each subject can be ascertained by referring to that table. The measurements are corrected separately for each position for difference in level between the subject and manometer.

The difference appears to be the result of changes in the relations of the axis of the pelvic cavity and abdomen. The axis of the body may be defined by a plumb-line pendent from the lower margin of the third lumbar vertebra and intersecting the inner edge of the pubic symphysis. In the horizontal position the lumbar curve is lessened and the pubes thrown forward and, which, therefore, receive a large share of the expulsive impact. In the sitting position the lumbar curve is restored, and the pelvic and abdominal axis more nearly coincide, and a greater proportion of expulsive effort is expended upon the pelvic viscera. In the erect position the line of the abdominal axis touches the inner surface of the pubes, or falls completely within the circle of the pelvis, and thus a greater degree of strain or expulsion finds its outlet through the pelvis. This explanation coincides with the results tabulated, and seems to me to be fair; but we must recollect there is great variety in the relations of these axes in different women, which would not only account for any difference which may be observed in absolute measurements, but also for the proneness of some women to uterine displacement.

It is apparent also from the second division of the table under review, that, if we express the value of this expulsive force in avoirdupois instead of inches of mercurial pressure, we attain an equally definite result. Expressed in a rough approximation, this force ranges from one to six pounds, and which may be exerted by the non-pregnant woman voluntarily at any time. If we regard the results arrived at as the minimum force exerted during labor, by Poppel[1] and by Duncan,[2] as from four to eight pounds, as at all correct, the remarkable fact is forced upon us that there exists in the average woman—non-pregnant—voluntary expulsive force equivalent to an easy labor, and which she may exert at any time. In view of this, it is not singular that uterine displacements play so large a part in the sexual disabilities of women.

2. In examining the first division of the table, it is apparent that position has the same effect upon visceral (abdominal) pressure as exhibited within the cavity of the pelvis, as it has upon voluntary expulsive effort. Between the positions of sitting and standing there is a difference of pressure equivalent to five-tenths of an inch of mercury, and between those of lying and sitting there is a difference of about six-tenths of an inch. It is reasonable to explain the varying amount of press-

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[1] "Monatsschrift für Geburtskunde und Frauenkrankheiten," B. 22, S. 1.

[2] "Researches in Obstetrics."

ure sustained by the pelvic contents in different attitudes of the body; in the same way I have already explained that of expulsive effort.

I have in another part of this paper alluded to the remarkable release of the pelvic organs from superincumbent visceral pressure in the squatting position. This is very evident in both divisions of the table; but it is still more so during the course of an observation when the mercury sinks nearly one inch below the zero of the scale. A large part of this apparent want of pressure disappears in the correction for difference in level. This variation in pressure due to position is represented graphically in Fig. 15.

The uterine movements due to respiration, coughing, and articulation, are classed under this cause (2).

Respiration Movements.—As shown by the tracings, the uterine movements induced by respiration are of a simple character. The downward part of the curve records the inspiratory pressure; the ascending curve coincides with expiration. With the body in a state of rest, the organs of respiration alone being active, the womb partakes of no other movement. The moment the voice is employed, the respiratory curve becomes of a very complex nature. The character of respiration, so far as it is rapid, slow, or forced, does not change essentially the curvilinear nature of the tracing. By examining Fig. 3, we notice that the apex of the curve is flattened, while the descending line terminates in an acute curve. This is simply the measure of the values of the inspiration and expiration pauses, the inspiration pause being so short as to permit the womb to ascend almost immediately to its position, while the expiration pause allows the pen of the manometer to trace nearly an horizontal line before the next inspiration. In very slight respiration in the horizontal position, as in Fig. 4, the expiration pause is expressed by a lengthened curve representing about one second of time over that of normal respiration in the sitting or standing position, while the pause of inspiration retains the same value as in Fig. 3. We may learn something of the manner in which the respiration impulse is prolonged to the uterine surface, by a comparison between the uterine and costal motion. Fig. 5, which is after Dr. Burdon-Sanderson,[1] represents a curve taken from the lower sternal diameter of the chest. The apex indicates the termination of inspiration and the beginning of expiration, and gives no pause equivalent to that of the womb in the same act. The curve has, therefore, nearly a sharp apex, while the base represents a long expiration pause. Now, while the uterus shows the same disposition to return to a position of equilibrium by the elasticity of its supports that the thoracic wall does after the completion of inspiration, yet the uterine movement follows and is not synchronous with those of the chest-wall. It therefore follows that when the womb is returning to a position of equilibrium, which corresponds to

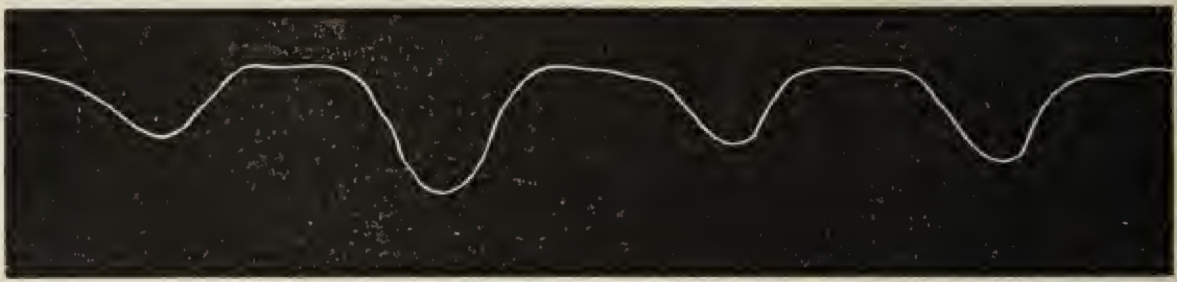

FIG. 3.—Easy respiration in the sitting position; one inch pressure on the manometer. The curve is given greater amplitude by a lever (x. 4). Subject No. 1. November 1, 1874.

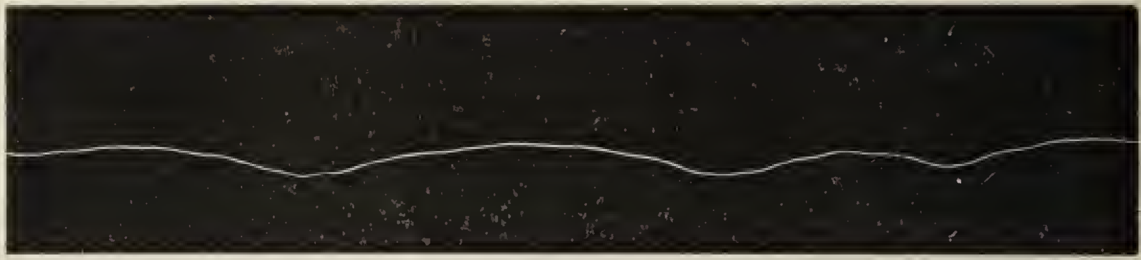

FIG. 4.—Easy respiration, lying upon the back; .8 inch pressure, lever. Subject No. 11. November 11, 1874.

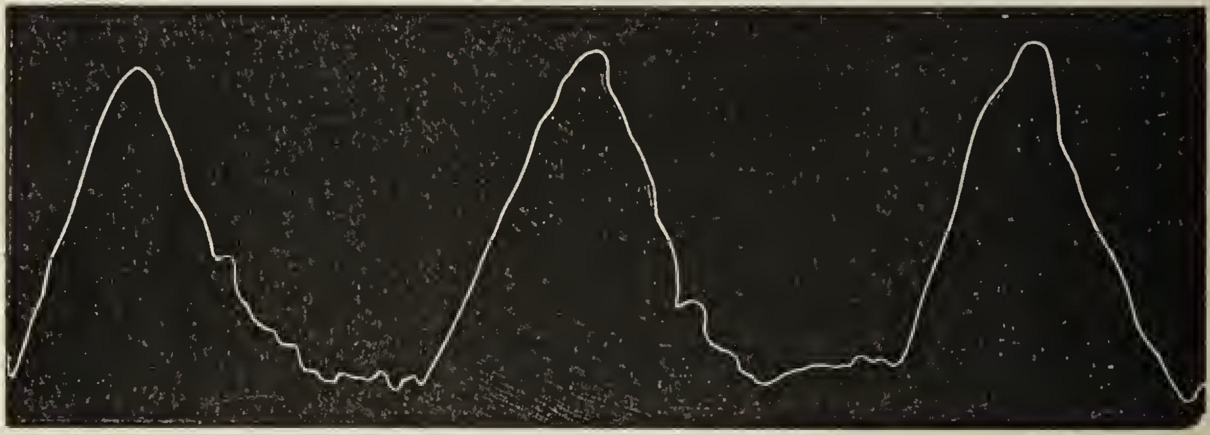

FIG. 5—after Dr. J. Burdon-Sanderson—represents a respiration curve taken from the lower sternal diameter of the chest.

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[1] "Hand-book for the Physiological Laboratory," text, p. 302, plates, Fig. 248.

the expiration pause, it meets the impulse of the beginning of the next inspiration, and, acted upon by two forces at once, the resultant is the curve given by the lever. The pause which in the lower sternal curve is expressed by a sharp apex in the uterine tracing for the same reason becomes a short curve. It will be noticed that in Fig. 5 the horizontal portion of the tracing is interrupted by several sharp curves which are supposed by Dr. Burdon-Sanderson to be due to cardiac impulse. These are entirely eliminated from the uterine respiration curve by the distance of that organ from the centre of respiratory action, absorbed probably by the abdominal viscera through which the impulse is propagated. The extent of the uterine movement in respiration varies but slightly, from one-sixteenth to one-tenth of an inch, while the lower sternal diameter ranges from 1.7 to 2 millimetres.[1] Observations taken with a ring (flexible) two and a half inches in diameter, and with my own vaginal flange stem-pessary, the flange, one inch in diameter, in position, gave tracing in no way differing from the normal. One observation with the Hodge medium-sized closed-lever pessary in position gave a normal tracing of similar extent, which was due to the fact that the vaginal tension was but slight, the subject complaining of pain after four ounces of water were injected into the apparatus. The respiration curve may be detected in other movements of the uterus, as will be pointed out as we study other tracings, belonging to this class of movements.

Articulation Curve.—The tracings obtained, while the woman is standing and conversing, are of almost endless variety, as we may imagine when we take into consideration the vast variety of interruptions to the breath during articulation. But two tracings are offered, Fig. 6 under seven-tenths, and Fig. 7 under one inch vaginal pressure. In Fig. 7 the subject was standing, earnestly talking of her troubles. From the point *a*, which corresponds to the expiration pause in Fig. 3, there is a marked downward direction of the tracings representing a steady rise of the mercury in the distal side of the manometer. The wavy points in the downward part of the curve represent articulate words. At *b* the inspiration is completed, so that from *a* to *b* there has been a steadily-increasing respiration tension involving a uterine movement of about two-tenths of an inch. From *b* to *c* there is a rapid respiration interrupted at *c* by a quick articulation, which gives the notched appear-

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[1] *Loc. cit.*, p. 302.

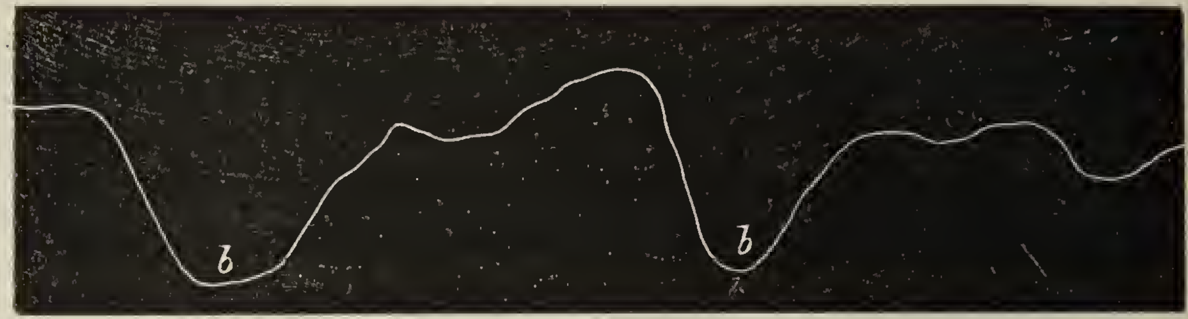

Fig. 6.—Articulation curve; .7 inch pressure, lever. Standing and talking earnestly. *b*, *b*, *b*, indicate the termination of inspiration. From *b* to *e*. there is gradually decreasing respiration tension, interrupted by slight inspirations terminated at *c* by a third long inspiration. *b* to *c* is equivalent to a short sentence. November 18th. Subject No. 9.

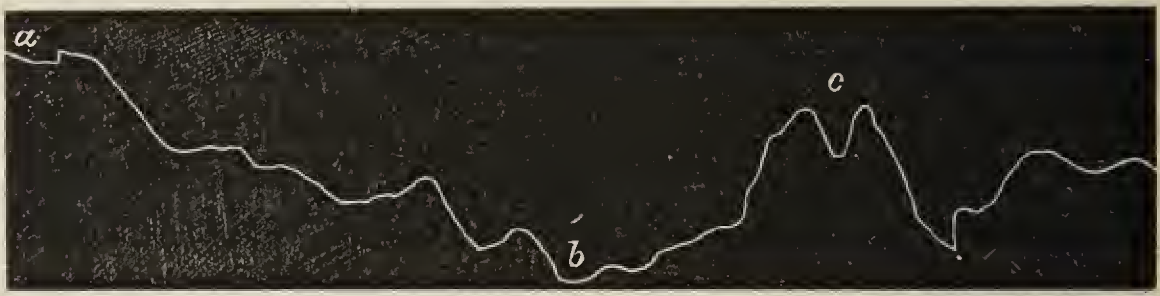

Fig. 7.—Articulation curve; one inch pressure. Standing. *a* corresponds to an expiration pause; from *a* to *b* there is steadily increasing respiration tension; from *b* to *c* a rapid expiration, interrupted at *c* by a quick articulation. Subject No. 7. November 20, 1874.

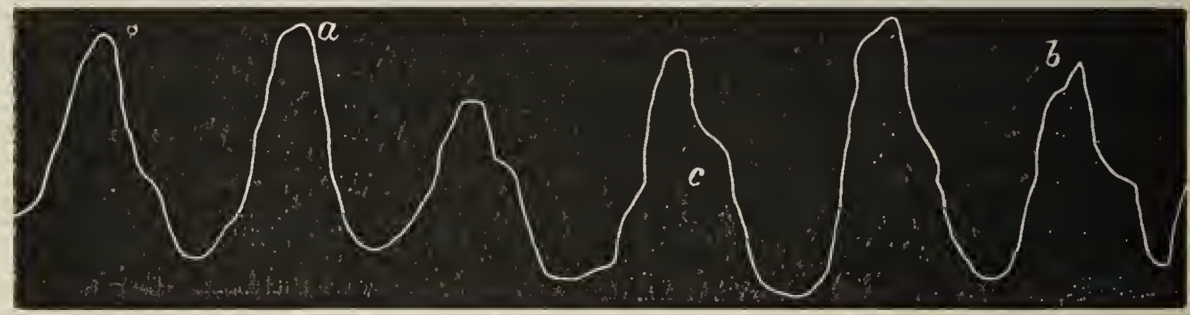

Fig. 8.—Coughing, respiration curve, voluntary; one inch pressure, lever. Lying upon the back. Subject No. 5. November 20, 1874.

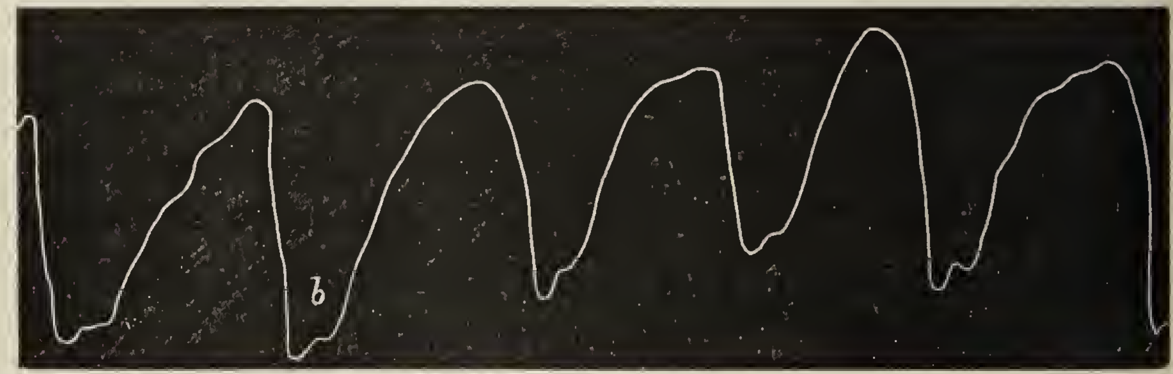

Fig. 9.—Coughing, respiration curve, voluntary; .8 inch pressure, lever. Standing. It is introduced for the purpose of showing the uniform notched character at *b*, the expiration pause. Figs. 8 and 9 are fair types of the tracings of this act. Subject No. 11. November 11, 1874.

ance of the summit of the curve. The subject of the tracing, Fig. 8, had habitually a short, hacking cough. The tracing exhibits, however, a series of voluntary coughs which differed, to the ear of the observer, in no manner from those which were involuntary; coughing of this character is produced during expiration. It is preceded by a full inspiration; there is, therefore, a quick upward movement of the pen of greater amplitude than in quiet respiration. The expiration being of a forced character, the pause following that act is cut short, thus probably accounting for the sharp apex. The notched apex shown at *a* and *b* is exhibited in other specimens in a more marked manner, but this one is selected for the uniform notch in the downward curve at *c*, and therefore exhibits two characteristics which I have always observed so far in tracings of voluntary coughing. It is difficult to account for the notch at *a* unless it is explained by the movement of the uterus having reached the limit of elasticity of its supports, and there is a disposition on the part of the organ to return to a position of equilibrium and which is resisted by the state of tension due to inspiration. The interruption at *c* I cannot explain except as due in some way to vaginal contractility. It must be observed that my explanations of the character of the curves are only suggestive, and appear most plausible to myself.

Vibration Curves.—In all uterine movements except those of natural respiration, there is a marked vibration movement apparent in the tracings. This becomes a leading feature in the record of walking movements. Mainly a walking curve results from motion in the mercury of the manometer something like this: As the foot touches the floor in advancing there is a slight upward movement in the distal side of the instrument equivalent to a descent of the womb; as the opposite foot is raised and advanced, there is a descent in the mercury corresponding to an ascent of the organ. These two movements form the main feature of the tracing. But the curve is complicated with angular irregularities, which I cannot explain, except as due to vibrations. These are more numerous in the upper portion of the tracing, which corresponds to the position of equilibrium of the womb. This coincides with my idea of their origin, for it is at the point of least tension that vibrations would naturally take place. Some slight movement occurs from oscillations in the rubber tubing, but this may be reduced to a minimum by holding the tube while making an observation. Uterine vibration movements are of great variety of extent, some of them nearly equaling the

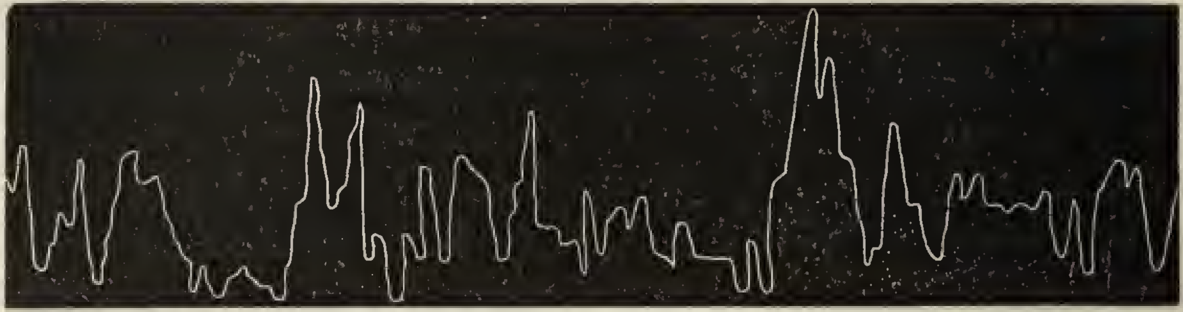

Fig. 10.—Vibration movements, walking; .8 inch pressure, lever. The long, nearly perpendicular markings attend the rise and fall of the feet, the shorter lines are vibrations of the uterus. Subject No. 4. November 18, 1874.

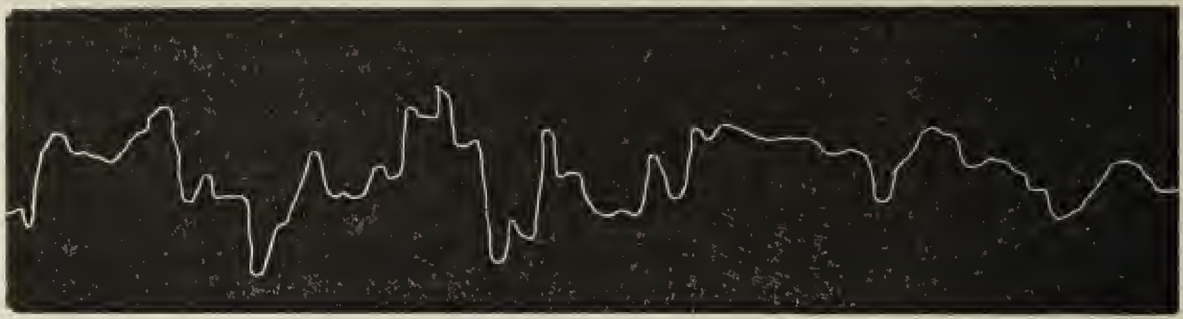

Fig. 11.—Walking; .8 inch pressure, lever. This tracing is introduced to show the usual forms of curve in this act—the womb being free from adhesions—the two figures representing the usual variety. Subject No. 1. November 19, 1874.

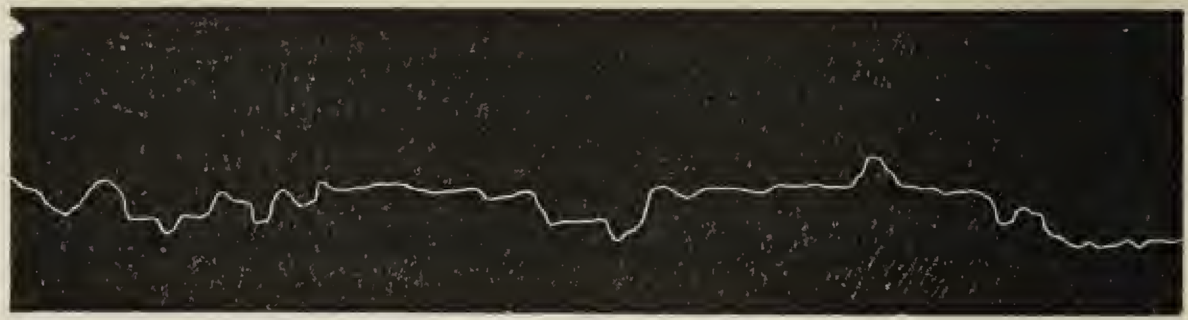

Fig. 12.—Walking; .8 inch pressure, lever. The womb held by anterior adhesions of recent date. Nearly total obliteration of vibration movements, and great restraint of movement attending the rise and fall of the feet. Subject No. 2. November 19, 1874. *Note.*—Nearly recovered from an attack of specific vaginitis, with slight peri uterine inflammation.

almost perpendicular markings attending the rise and fall of the feet. Fig. 10 is a fair specimen of the walking curve. When adhesion exists, the walking trace possesses pathological significance. Fig. 12, which is a tracing obtained from No. 2, Table I., and in which there were anterior uterine adhesions permitting but slight movement on upward pressure with the finger, shows marked restraint to free uterine movement, and nearly total obliteration of minor vibratory motion. Several tracings, obtained from this subject, gave great uniformity of results. Tracings of this character go to prove that these motions in the mercury are almost entirely of uterine origin.

Pseudo-vaginal Expulsive Curves.—This tracing (Fig. 13) is caused by bearing down or straining, and is a voluntary act. Judging from a study of the action of the abdominal muscles during this expulsive effort, there is but little, if any, vaginal contractility engaged. A full inspiration is taken, the breath is held, the sphere of the abdomen becomes flattened, the muscles become hard; at this moment the mercury in the distal column of the manometer rises on an average about two inches; an expiration then occurs, the muscles of the abdomen relax, and the mercury quickly sinks to its level before the expulsive effort. The character of this tracing de-

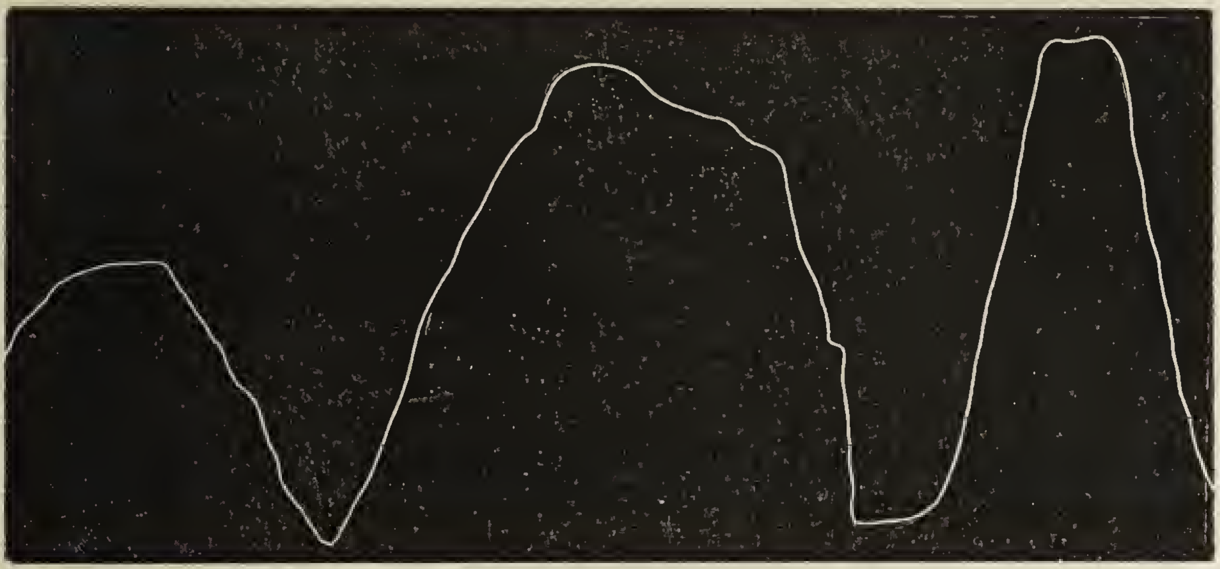

FIG. 13.—Vaginal expulsive curve; .7 inch pressure. Direct tracing. Water-bag containing seven fluid ounces of water. The curve is produced by bearing down, or straining. Subject No. 8. December 11, 1874.

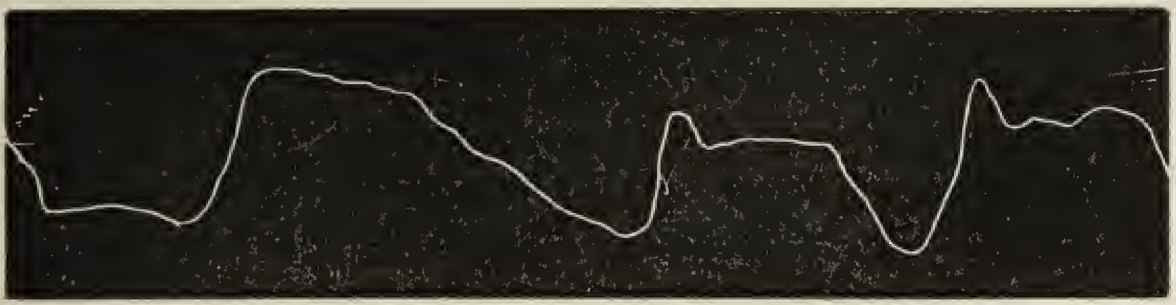

FIG. 14.—Vaginal expulsive curve; .7 inch pressure. This curve is introduced for the purpose of exhibiting the great variety of form in the tracing of this act. No two possess any character in common, even upon the same subject. Subject No. 4. December 8, 1874, Direct tracing.

pends in a great measure upon the will of the woman. If the expulsive effort is carried to the maximum limit, the relaxation of the muscles engaged in the act occurs without any interval, the mercury falls quickly, and the effort is defined graphically by nearly perpendicular lines uniting at a sharp apex. If the expulsive act is less forced, the pen of the instrument remains stationary for a varying interval at the point of greatest tension, so that a parallel line occurs between the ascending and descending lines of the curves; or by quick voluntary relaxation a sharp apex may be formed.

It is interesting to speculate for a moment upon the effect of this expulsive action upon the unimpregnated womb. The force expended in this act, measured manometrically, is as accurately a measure of abdominal as of vaginal pressure. If we trace the distribution of the peritonæum over the pelvic viscera we define the area of this pressure. Anteriorly the peritonæum is reflected from the uterus at an acute angle on the bladder at the level of the internal os, when the bladder is partly full. The condition of the bladder, however, defines the situation of the vesico-uterine excavation. Posteriorly the uterus, the uterine neck, one or two centimetres of the posterior vaginal wall.[1] As Savage divides the pelvic cavity by a line from the posterior centre of the pubes to the junction of the third and fourth sacral bones into peritoneal and sub-peritoneal pelvic spaces, this line would practically represent the diameter of the area exposed to expulsive impulse. It will be seen from the above that the vagina receives the impulse secondarily. The bladder at the peritoneal line of the vesico-uterine junction receiving its share of pressure transmits the impulse to the upper portion of the anterior vaginal wall. The uterine fundus receives the pressure direct. Stayed laterally by its tubal connections and the folds of the peritonæum, posteriorly by the intestines, anteriorly by its vesical attachment, and in all directions by ligamentous processes of pelvic cellular tissue,[2] the organ in obeying the impulse preserves its relation to the pelvic axis. But, during the study of this movement by the manometer the relation of the womb is slightly altered. The water-bag lifts the uterus, and the cervix is carried backward. The pressure is directed upon the water-bag, therefore, in the following manner: The anterior cervical wall, the lower third of the anterior uterine wall, the anterior vaginal *cul-de-sac*, and the upper anterior one-third of the vagina, receive the expulsive impulse. Whatever movement the womb makes during this act, I think it probable that the vagina partakes of it in an equal degree. From three to five-tenths of an inch vertical uterine motion appears to me to approximate the fact, during the lighter and more extreme degrees of expulsive effort. The amount of power varies greatly with different women. Some find difficulty in forcing the column of mercury up two inches, while others can exert a force equal to four inches, but I have never met with the subject who could hold the mercury at this last point. In constructing Table II., the point to which the woman could force the mercury and hold it there was regarded as the maximum of straining power. If the vagina is over-distended with water, the woman cannot exert the straining force to advantage. This matter will be referred to again when I consider the action of the vagina in uterine movement.

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[1] Drawing by Prof. Spiegelberg, modified from Kohlrausch, Klin. Vorträge, *American Journal of Obstetrics*, November, 1874.

[2] Savage, text to plate viii.

Movement Curve (Fig. 15).—With the subject lying down (the zero position) the water-bag is filled so that the column stands from six to eight-tenths of an inch above zero in the pressure-gauge; connection is then made with the manometer. The clock-work being set in motion, the woman is told to sit up, to stand up, to step upon the floor, to bend forward, or to squat down. The tracings of these acts express the following movement in the distal column of the manometer: (*a*) A sudden rise on sitting up from the zero position; (*b*) a slight further rise on standing up; (*c*) a vibration movement when stepping upon the floor; (*d*) a sudden fall of five to eight-tenths of an inch upon squatting; or (*e*) a slighter descent upon bending forward; (*f*) a quick but tremulous ascent on resuming the standing position; (*g*) a slight fall upon sitting down; (*h*) and a return to zero upon lying down. The curve, therefore, expressed the varying amount of vaginal tension during the movements described. If in the zero position the tube connecting the water-bag with the instrument is held by a clip to prevent respiration movements in the mercury, and the clock-work is then operated, the pen will describe a straight line upon the cylinder. The subject is then put through the various movements described. The straight line will be the abscissa of the curve. The observation is completed by drawing ordinates at constant intervals intersecting the curve.

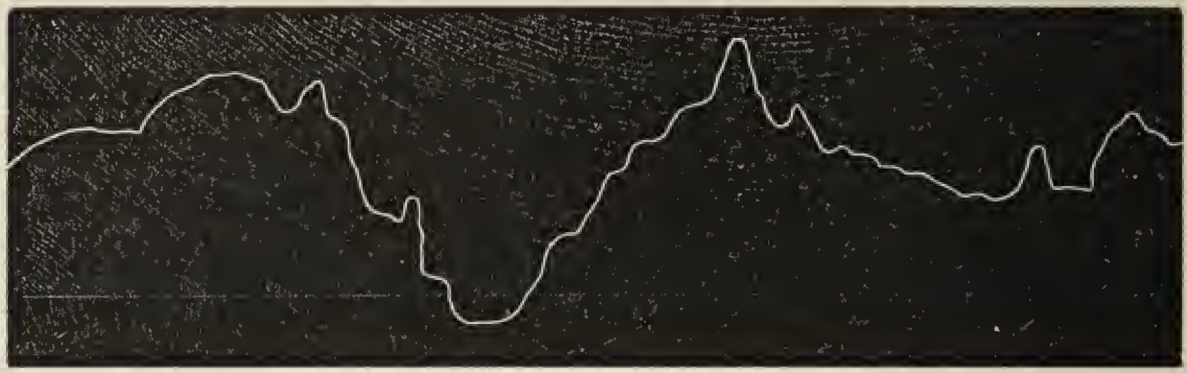


FIG. 15.—Movement curve; .6 inch pressure, four to eight fluid ounces of water in the water-bag. *e* lying down, *a* the subject sitting up, *b* squatting upon the floor, a sudden upward movement to *a′*, the patient having got upon her feet, *c* she is again sitting down, *a″* she again stands up, *b* she again squats upon the floor. This tracing illustrates very finely the great lessening of vaginal pressure in the squatting position. Subject No. 8. December 5, 1874. Direct tracing.

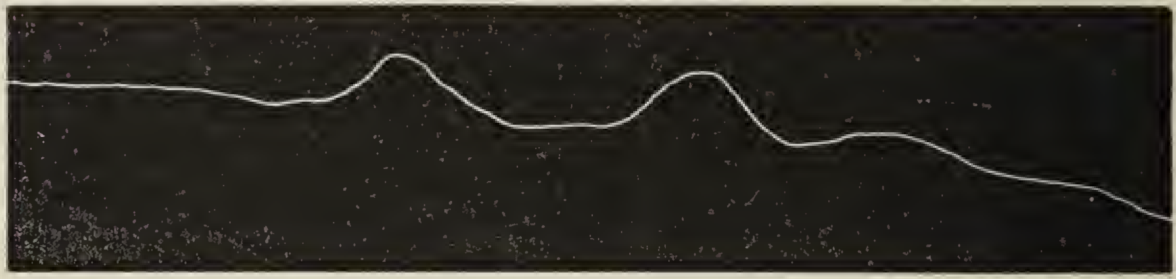


FIG. 16.—Movement curve; .5 inch pressure, four fluid ounces of water, showing the modification of the curve due to adhesions. The subject is put through the same movements as in Fig. 15. One of eight observations of this act upon this subject with varying amounts of water; but small amounts comparatively could be used on account of the pain produced. They all agreed in general character. Subject No. 2. December 5, 1874. Direct tracing.

The ordinate for any given portion of the curve being measured upon a scale of inches and tenths, or millimetres, will give the absolute height of the mercury for any given act. The changes of vaginal tension during these acts, voluntary expulsive force being excluded, depend upon abdominal visceral pressure. In lying down, the pressure is *nil;* in sitting, the visceral gravity is expended partly upon the pelvic organs and partly upon the lower portion of the abdominal wall in front, the body usually being inclined forward; in standing, the anterior wall of the abdomen becomes more perpendicular to the plane of the pelvic excavation, the pressure is reflected off the abdominal wall downward in the line of the pelvic axis. In squatting, the weight of the viscera is thrown upon and in front of the pubes, and the pressure taken off the pelvic organs, the womb rises in the pelvic cavity, the fundus turning forward, the neck backward and the anterior vaginal wall elongated. That the pressure in this position is greatly less is positively demonstrated by a descent of the mercury of from .8 to 1.2 inch in the distal limb of the pressure-gauge below the zero point (Table II.). I know of no exception to this rule during a long series of observations. With the finger in the vagina, I have always found the womb in the position described above, and, by keeping the finger gently pressed against the os while the woman is becoming erect, the neck will follow the retraction of the finger, the fundus undergoing a slight retroversion.

Action of the Vagina in Uterine Movements.—It does not need argument to support the statement that the upper part of the vagina partakes of uterine movement; but it is not so clear to what extent the vagina restrains uterine movement; or, as would naturally follow if it possesses any restraining force at all, to what extent it acts as a support to that organ. A reference to the connections of the vagina to the bladder and rectum seems to point to its action as a detainer of the uterus in this sense, that after a certain and necessarily small descent of the uterus the inhibitory power of the vagina is brought into action. That the uterus has a variable amount of vertical normal movement without exciting vaginal inhibitory action, is evident from the fact that the upper posterior one-fourth of the vagina is free from rectal connection to the utero-vaginal junction, and in front the pelvic cellular-tissue connection is of comparatively loose structure at and slightly below the vesico-uterine peritoneal fold. The uterus, therefore, during respiration and vibration movements encounters no resistance from the vagina except the elastic resistance inherent in the structure of the vaginal walls. If the descent of the uterus continues beyond this point of elastic vaginal resistance, it then brings into play inhibitory vaginal action. The existence of what I believe to be vibration movements would evidently be wanting were the upper portions of the vagina capable of totally retarding uterine movements. This action belongs to the structure of the vagina itself rather than to its pelvic cellular connections. Any force the vagina may oppose to the normal or abnormal descent of the uterus by reason of its cellular processes does not properly belong to the vagina, but resides in the pelvic cellular tissue connecting it with adjacent organs, and in this sense the rectum and bladder are of equal value in sustaining the uterus in position. But the sustaining force of the vagina resides in its muscular and elastic structure. It is probable that elastic resistance is encountered during every movement of the uterus, no matter how slight; the vaginal contractile resistance being the force brought into action the moment uterine movement ceases to be within the limit of health. That portion of the vagina surrounding the invaginated portion of the uterine neck offers the minimum of contractility (Table III.), and from this fact I conclude the normal uterine movements to elicit but little, if any, vaginal contractile resistance. The power of contractility of the vagina varies at different portions of the passage. Table III. is designed to illustrate this fact. The facts there tabulated were arrived at in the following manner: A glass tube, five inches long, and of two-tenths of an inch calibre, is divided into inches and tenths by means of a paper scale, covered with water-proof varnish, placed inside. One end of the tube is covered by a strong piece of sheet-rubber, tied so as to be air and water tight, about one inch from the end. The piece

TABLE III.—*Initial Contractility of Different Portions of the Vagina, expressed in Inches and Tenths of Mercurial Pressure.*

No. of subject.	Contractility at uterine cervix.	At the middle of vagina.	At the vaginal ring.
7	.3	.4	.5
1	1.2	1.3	1.5
4	.5	.5	.9
10	.3	.5	.6
15	1.2	1.2	1.5
16	1.3	1.4	2.
8	1.	1.2	1.4
2	.8	.8	1.2
17	1.	1.5	1.8
11	1.3	1.5	1.7
5	.9	1.2	1.5
Mean.	.89	1.04	1.32

of rubber-sheeting is cut of such a size that after being secured to the tube it will contain a fluid ounce of water with a safe degree of distention. An observation is made in the following manner: The air is expelled from the tube by filling with water, but not in amount sufficient to distend the rubber bag. The rubber tube *b*, Fig. 2, is prepared by removing the water-bag *c* and connecting it with the free end of the glass tube after being filled with water by suction. A clip is placed upon the branch *h* of the tube, and a nicely-working syringe is fitted to the branch *i*, filled with a fluid ounce of water. The tube is now inserted into the vagina, the membrane in a state of collapse pressed against the external os, care being taken that the tube does not pass into either *cul-de-sac.* It is best at this stage of the observation to connect the branch *h* with the proximal limb *a* of the manometer in order to ascertain if there is any pressure upon the tube in the vagina; should there be any, allow water to escape by lifting the coupling in the branch *h* from off the cap of the manometer, until the mercury in the distal side of the instrument is at zero. Note the distance the tube has entered the vagina, upon the scale within it, and, having disconnected the rubber tubing from the manometer, replacing the clip upon the branch *h*, force the water out of the syringe, and which at once distends the rubber membrane in the vagina, and, connecting with the instrument again, read the amount of vaginal pressure as indicated by the height of the mercury upon the scale. The distended membrane at this point comes in contact with about three-fourths of an inch in length of the surface of the vagina; the height of the mercury, therefore, represents the resistance of the vagina to a fluid ounce of distention; or, in other words, its contractility. The same observation is repeated for the middle of the passage, by reading off half of the total penetration of the tube within the vagina upon the scale. The third point selected in the subjects tabulated is at the vaginal ring, the measurement being made in the same manner. The measurements upon the vaginal tube are taken inferiorly from the urethro-vaginal tubercle.

The figures in the table which correspond to the contractility at the vaginal ring represent the contraction of the vagina at this point, *plus* the action of the constrictor-vaginæ muscle, which is the pubo-coccygeus muscle. The action of this muscle in estimating vaginal contractility at the vaginal ring cannot be eliminated. Vibrations in the column of mercury, which are not observed by this method of study in superior portions of the vagina, are due to its action. If the mercury is stationary, it may be inferred that it is exerting its minimum force.

Although the table does not include a sufficient number of subjects to establish the fact positively, still it is safe to say that it is approximately true that vaginal contractility increases in proportion as we leave its uterine connections and approach its vulvar outlet. If this be true, it naturally follows that, in uterine prolapsus, the vagina offers, *per se*, a constantly-increasing resistance to the descent of the organ, determined by the amount of deviation from the normal position. It is also deducible that vaginal contractility must be one of the forces which is removed primarily by diseased action in order to render possible uterine or vaginal prolapse. Small as this force seems when measured by the manometer, it is sufficient to more than counterbalance the total weight of the normal unimpregnated uterus.

The preceding statement brings us to a fact more thoroughly supported than that deduced from Table III., and which may be stated as follows:

That the contraction of the vagina is a measure of its power as a supporting column. The additional testimony tending to the establishment of this fact is obtained from Table IV., but which, I regret to say, has the same fault as the preceding table—the want of a sufficiently large number of cases to generalize from. Four cases of cystocele have been under observation in the construction of the table—subjects four, seven, ten, and fourteen. A glance at the table shows the greatly impaired resistance of the vagina to a distending force in these four subjects, compared to the contractility in the other subjects in whom the parts have maintained their function unimpaired. The four cystocele subjects, with a mean vaginal distention of 7.7 fluid ounces, gave a mean pressure of eight-tenths of an inch; while those subjects composing the remaining number in the table, with a mean vaginal distention of 4.8 fluid ounces, give a mean pressure of 1.04 inch—a difference in pressure between the two classes of .24 inch, with nearly one-half less in mean volume of displacing force, and which, therefore, nearly doubles the value of the difference in pressure.

It may possibly render the table more intelligible to describe the method of its construction. The design is to get at the total initial vaginal contractility, or, in other words, the resistance of the entire passage to a distending force. The water-bag, *c*, Fig. 2, is placed in the vagina, its upper part in contact with the external os; a Davidson or other syringe is connected with the branch *i*, and a clip placed upon the branch *h*. The water-bag is now filled with water of the temperature of 70° Fahr., until the subject begins to complain of pain, which is the signal to stop the distention. Before connecting with the manometer, see that the subject is lying quietly upon her back, and caution her not to bear down or strain; then connect with the instrument and remove the clip. The mercury in the distal side of the manometer will at once rise from .5 to 1.5 inch. Note the position of the mercury. This completes the first part of the observation. The next is to ascertain the amount of distention, which is readily obtained by collecting the water as it flows from the vagina.

TABLE IV.—*Initial Contractility of Vagina, expressed in Inches and Tenths of Mercurial Pressure.*

No. of Subject.	Amount of vaginal distention in fluid ounces of water.	Contractility of vagina.
4	8 fluid ounces.	.9
1	7 "	1.5
7	8 "	.8
5	4 "	.7
8	5 "	.7
10	8 "	1.
15	4 "	.9
14	7 "	.6
16	4 "	1.2
13	5 "	1.1
2	5 "	1.2

Another evidence of the value of vaginal contractility as a factor in the sustaining power of the vagina is the fact that the vaginæ of those subjects afflicted with cystocele were capable of twice the amount of distention, without exciting pain, as in the second class of cases tabulated. Now, there is no reason to believe that the vaginæ of the first class of cases were any more capacious than those of the second, but they were capable of containing more, because they had lost the power of resisting distending force. In those cases the limit put upon the distention of the passage by pain was so far removed from the normal as to render a great distention possible. All portions of the vagina share this relaxation, the vagina ring as well. The perineal body also seems less able to afford resistance to pressure from above.

So far as voluntary vaginal expulsive effort is a measure of intra-abdominal pressure (and, as I have shown, there is a great resemblance between them), we have this force with less expression in those cases of impaired vaginal contractility. By referring to Table II., we see that the four cases of complete uterine prolapsus, with cystocele, in the second division of the table, give a mean voluntary expulsive effort of 1.3 inch in all positions; while four subjects, in whom the vagina has preserved its normal condition, give a mean voluntary expulsive force, in all positions, of 2.+inches. It is evident that, in the four cases studied, initial vaginal contractility and voluntary expulsive force are impaired to about an equal degree. I was surprised at this result, for it was contrary to the opinion I had theoretically formed. I simply leave it to be confirmed, or not, by the study of a larger number of cases, and which I trust myself, or others, may have an opportunity of doing.

It may be objected that the numerical statements of forces which I have given as acting in the unimpregnated woman are too small to give any practical result. But we must bear in mind that we have no means of knowing positively how small a deviation of that contractility which is inherent in living tissue may be necessary to a pathological change of structure or relations of parts. It seems to me to be more consistent to suppose that the forces which exist as factors in the multitudinous conditions of life are small forces in constant operation, and that this constancy of operation aggregates vast results. This is consistent with the phenomena of growth, and is equally consistent with a just idea of those forces which maintain the normal relative position of organs. It is also consistent with the theory that these changes in the conditions of parts which become pathologically significant are not the results of the exhibition of great forces, but of an impairment of the relative value of the normally existing forces.

ART. II.—*On Certain Peculiarities of Action of Aconite and Opium, with some General Observations on the Treatment of Narcotic Poisoning. Illustrated by the History of Two Cases.*

By JOHN ELLIS BLAKE, M. D. (Harvard), Fellow of the New York Academy of Medicine, Member of the Massachusetts Medical Society, Connecticut State Medical Society, etc.

As the above title indicates, I do not pretend, at this time, to offer any thing worthy the name of a "paper" on narcotic poisoning. The subject is too rich to be properly treated in narrow limits, and to so treat it not only should one be familiar with what is already ascertained as to the nature and action of the various substances known as "narcotics," but, as a preliminary to the preparation of a "paper," further research and experiment should be made to give the greatest possible exactitude.

Such researches and experiments would, I think, have a real practical value, since, although all the "narcotics" have one well-known property in common—that of impairing, to a greater or less degree, nerve-power—yet each has its own peculiarity of action, not perhaps so generally or so well understood.

To defend intelligently and successfully the citadel of life from these enemies, it is important to know exactly by what road, or by-path, they will steal to the attack.

It is to certain peculiarities of action, of aconite especially, and of opium (two of the most important and active substances on the list of narcotics), that I would now draw attention.

The physiological effects of aconite (*Aconitum napellus*), wolf'sbane, or monk's-hood, upon the animal economy, have been the subject of much study. Among the distinguished men who have given to the world the results of their experiments and researches, the name of Dr. Alexander Fleming must always be prominent. To his inaugural dissertation on the "Physiological and Medicinal Properties of Aconite," the gold medal was awarded by the Senatus Academicus of Edinburgh in 1844.

It is not my purpose to quote at length from this admirable paper. The author considers the physiological action of aconite on man, in moderate doses, under four heads, according to the degree of operation. These degrees are most carefully and graphically described; but it is with the fourth stage, and where the aconite has been taken in a poisonous dose, that we have to do. I quote from Dr. Fleming: "When the action of the drug is carried to a fatal extent, the individual becomes entirely blind, deaf, and speechless. He either retains his *consciousness to the last*, or is affected with a slight wandering delirium; the pupils dilated; general muscular tremors, or even slight convulsions, supervene, the pulse becomes imperceptible both at wrist and heart, the temperature of the surface sinks still lower than before, and, at length, after a few hurried gasps, *death by syncope takes place.*"

I would call attention to two points in the above—the one that Dr. Fleming states that, in fatal cases, *consciousness* is retained to the last, more or less perfectly, and that the patient's life is extinguished by syncope. He is sustained in these views by all the authorities I have been able to consult; but it will be noted, in reading the report, subjoined, of a case of aconite-poisoning, that the patient became early and completely *unconscious*, and so remained for many hours. The question may arise, if this symptom may not have been partly due to the chloroform, which was taken in equal amount at the same time.

Dr. Archibald Keith, in a paper contributed to the *Edinburgh Medical Journal*, April, 1868, p. 894, says: "The chief brunt of aconite falls on the nerves of the heart. When taken internally, although other organs of the body come under its influence, its main action is upon the centre of circulation"

"If we could suppose Dr. Richardson's ether-spray directed on the heart, it would give a fair idea of the effect of aconite upon that organ." "There is a diminution of blood in it, and a decrease of its vital properties."

Having recognized that aconite acts as a poison by directly paralyzing the heart, whereby the circulation of the blood is brought nearly to a stand-still, we are led at once, not only to draw certain conclusions as to the best methods of treatment, but also to expect, as a result of this stasis of the blood, interference, for a time, with the function of some of the internal organs, especially the kidneys, with temporary pathological changes. I think we have evidence that these changes may thus be produced. I give the following account of an autopsy made in a case of aconite-poisoning, reported by Mr. George Sayle to an English journal many years since. It will be noticed in this case how great and how general was the engorgement of the abdominal vessels. The author, after quoting Dr. Fleming's description of a death from an overdose of aconite, concludes with these words: "It will be seen that this case and Dr. Fleming's description admirably agree, and that death takes place by syncope is proved by all the organs examined being enormously distended with blood."

Post-mortem examination forty-eight hours after death: Liver, spleen, and kidneys, distended with dark blood; veins generally congested; the stomach presented a slight blush near the cardiac extremity; the whole alimentary canal emptied of fecal matter and distended with air; the valvulæ conniventes distinctly seen from without, owing to the congested state of the blood-vessels; pelvic viscera healthy. Remaining part of the body not examined.

In the case of Miss C. it will be noted that, during many hours, scarcely one full ounce of urine was secreted by the kidneys. This urine, drawn by catheter, and therefore free from any source of error, was loaded with albumen and fragments of epithelial casts. Then, four hours and a half after swallowing the aconite, and after having become conscious and able to speak, a tendency to profound coma comes on, which necessitates the employment of the battery for twelve hours to keep the patient awake. At the end of this time a critical and profuse excretion of urine takes place, and the patient is out of danger. A specimen of this urine shows abundance of albumen and fragments of casts. The next shows less albumen and fewer casts, and subsequent specimens examined contain neither. Now, should the kidneys in the case of this patient prove, as we hope, to be free from chronic disease, we must conclude that the albumen and casts found were due to the engorgement of the kidneys with blood, during the stasis of that fluid caused by the poison, and which showed itself externally in the arrested capillary circulation, and caused also the ready desquamation of the cuticle noticed. That (in the absence of a better) this is a reasonable explanation of the phenomena observed, has the recent indorsement of a distinguished pathologist of this city (*vide* "Report New York Pathological Society," stated meeting of February 10, 1875). Now, even should further experiment go to show that certain narcotics, notably aconite, do not *invariably* induce renal congestion, yet, if it be proved that this congestion and consequent temporary extinction of eliminating power be a thing not only possible, but *liable* to occur, it will readily be seen that the fact is of great practical interest. We shall feel it an especial duty, in cases of narcotic poisoning, to examine the urine, and, if albumen and casts be found, whether we deem them the product of causes acting temporarily, or the result of chronic disease, to keep a close watch over the patient for some hours, no matter how complete may appear the recovery; otherwise he may succumb from uræmia producing what I venture to term *secondary coma*, after having rallied to a great extent from the primary effect of the narcotic. I do not know to what an extent these views are original. To pronounce them so would require a far more thorough knowledge of medical literature than I can pretend to. I have been led to entertain them, not only from observations of the two subjoined cases, but of others. Whether true or not, in acting upon them one could only err on safety's side.

The obvious indications in every case where poison has been taken into the stomach are to evacuate it as speedily and thoroughly as possible, to endeavor to neutralize such portion as may unavoidably be left behind, and to combat the effect of that which may have been absorbed. It has been recommended, and by high authority, in cases of aconite-poisoning, to give a large dose of animal charcoal, which, it is said, will entangle and neutralize it; and it is even advised that this should precede the administration of an emetic. Unless the charcoal were at hand this might prove dangerous advice. In no case of aconite or opium poisoning would I ever wait for the operation of an emetic. I would give one, of course, and if it took effect before the tube of the stomach-pump could be introduced, well and good, but I consider any delay as dangerous, for this reason: that, in a certain proportion of cases, the nervous connections upon which the reflex action of vomiting depends are very early paralyzed by these poisons, and perhaps by all their class, although they may all sometimes act as emetics.

There is also reason for the belief that the process of absorption goes on for a long time after the stomach has ceased to respond to the action of emetics. In this connection the Case No. II., herewith appended, is interesting, since it shows that a stomach, which was naturally most irritable, could in no way be affected by emetics, after taking a large dose of opium.

Dr. D. D. Hanson, in the *American Journal of Medical Sciences*, January, 1862, page 285, reports a case of aconite-poisoning, the subject being a colored boy five years of age. Dr. Hanson reports the case as illustrative of the antagonistic action of strychnia upon the effects of aconite. The emetics given (ipecac. and antimony) failed, as well as irritation of the fauces, to excite vomiting. At the end of half an hour the report says: "The respiration grew more difficult and the pulse became imperceptible at the wrist. He was sinking evidently, and emetics were aiding the poison, instead of the patient, as the muscular fibres of the stomach were rendered insensible to expulsive stimuli by the depressing influence of the poison."

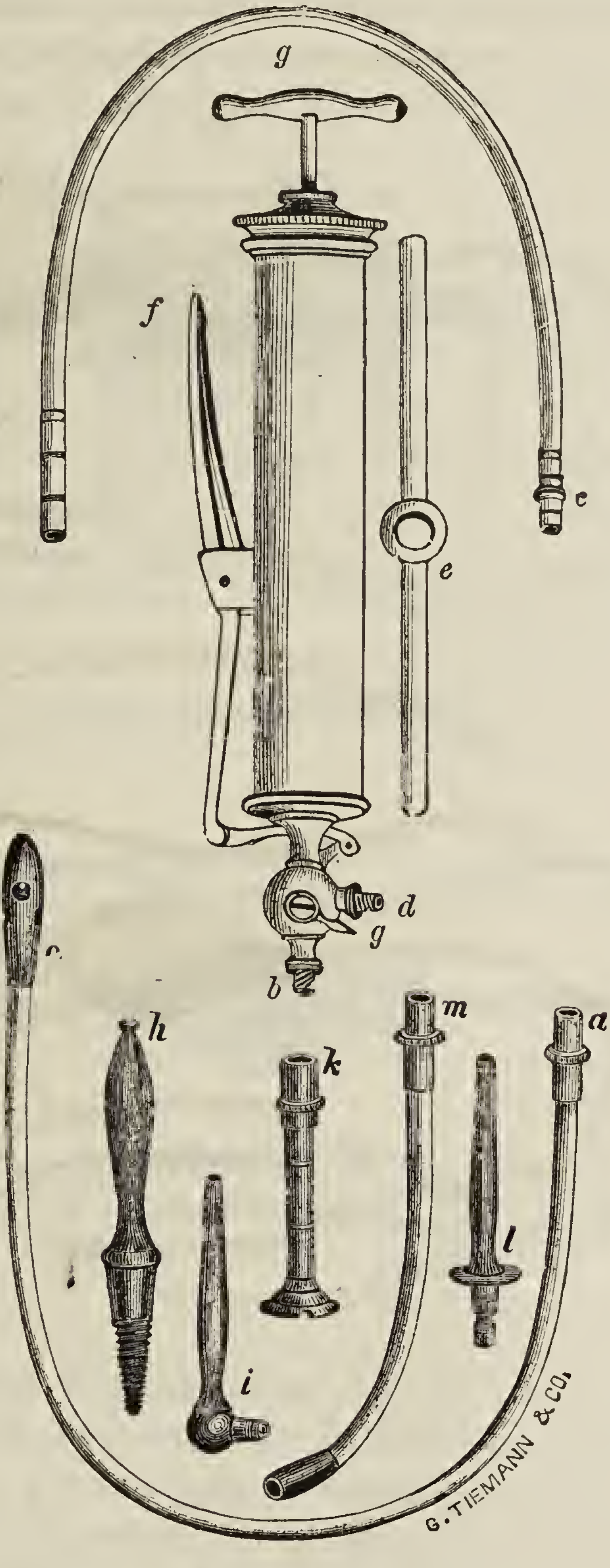
In this case the stomach was roused to action, and the patient eventually saved, by giving repeated doses of the tincture of nux-vomica. It will be noticed that, in Case No. I., also (appended), no impression could be made upon the stomach by emetics. The *position* of the patient during treatment is sometimes a matter of importance. The tendency to syncope, so marked from aconite-poisoning, must be opposed, not only by the various forms of stimulation, but also the head should be kept very low, while, after opium-poisoning, oftentimes, the tendency to coma can be more easily overcome by keeping the patient erect. This point is well illustrated in the two cases given.

I desire here, in connection with this subject of peculiarities in the action of narcotics, to briefly put on record what I observed in a case of poisoning from *Gelsemium sempervirens.* The patient, a strong man of middle age, had taken, by mistake, about two drachms of the tincture of this plant. Besides the effects ascribed by authorities to overdoses, such as dimness of vision, prostration, diminished action of heart and respiratory organs, my patient, whom I saw a little over half an hour from the time he took the dose, had symptoms closely resembling those observed in the frightful spasms of hydrophobia, and which I have never seen exceeded in any one not afflicted with that fatal disease. At intervals, varying from thirty seconds to one minute (by rough estimate) the most distressing paroxysms of dyspnœa occurred, apparently due to spasm of the glottis; at least the patient both clutched at his throat, and beat the air with his hands, in a way highly suggestive of that condition. He recovered, being much relieved by morphia hypodermically introduced; but during several of the attacks I feared he would suffocate, the cyanosis being so marked.

This spasm of the glottis may have been due to individual idiosyncrasy. If, however, it be a peculiarity of action of this substance liable to occur, I can readily conceive that a case might arise of poisoning from it, in which an opening below the glottis might be required.

It has been suggested to me that a few words, in connection with this subject, about the stomach-pump, and the best manner of using it, would be appropriate. I am told that, for several reasons, prominent among which is the fact that it is very seldom needed, there are many of the medical profession who neither keep one, nor are acquainted with the manner of using it. That, in nine cases of poisoning out of ten, it is not needed, is perfectly true, but in the tenth case it may be a *sine qua non*, and, for that reason, should be more generally kept. I think that it should be used at once in every case of *aconite*-poisoning, and may be required to thoroughly free the stomach from

Fig. 1.



opium. I quote from the *New York Medical Record* of September, 15, 1871:

"The stomach-pump is such an important instrument that no practitioner of medicine should be without one. By it an operation can be performed which can be done by no other contrivance—an operation which, in the large majority of cases, is the direct means of saving life. The circumstances demanding its use are such as to admit of no delay—no opportunity, perhaps, of sending to an instrument-maker, or borrowing of a neighbor-physician. Especially is this the case in country practice, and it would not be saying too much that many a case of poisoning is allowed to die which the possession of this instrument and its prompt use might save."

FIG. 2.

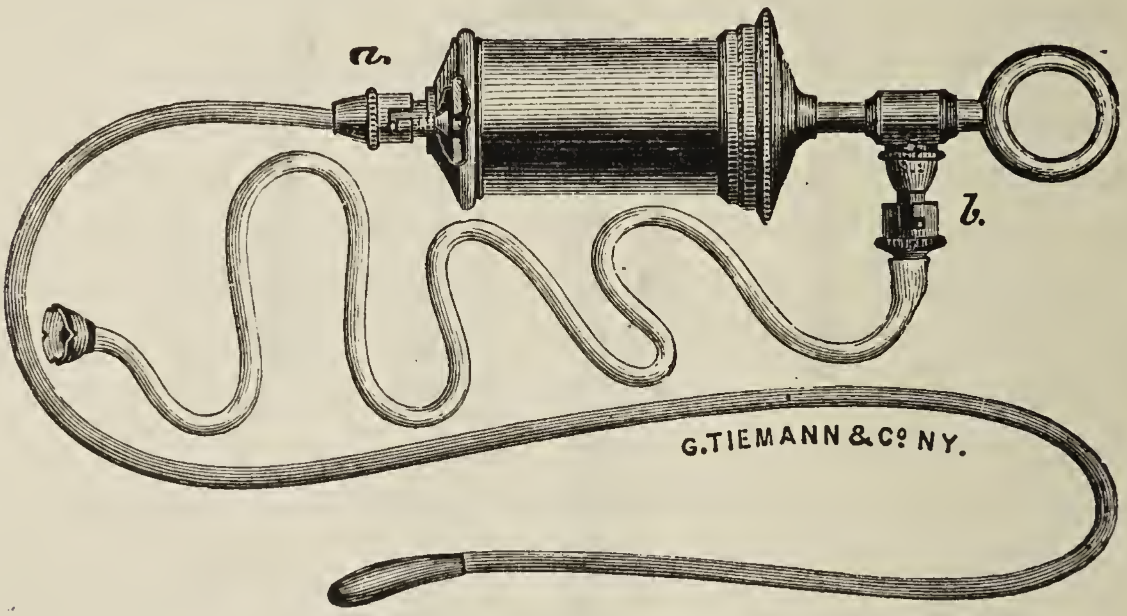
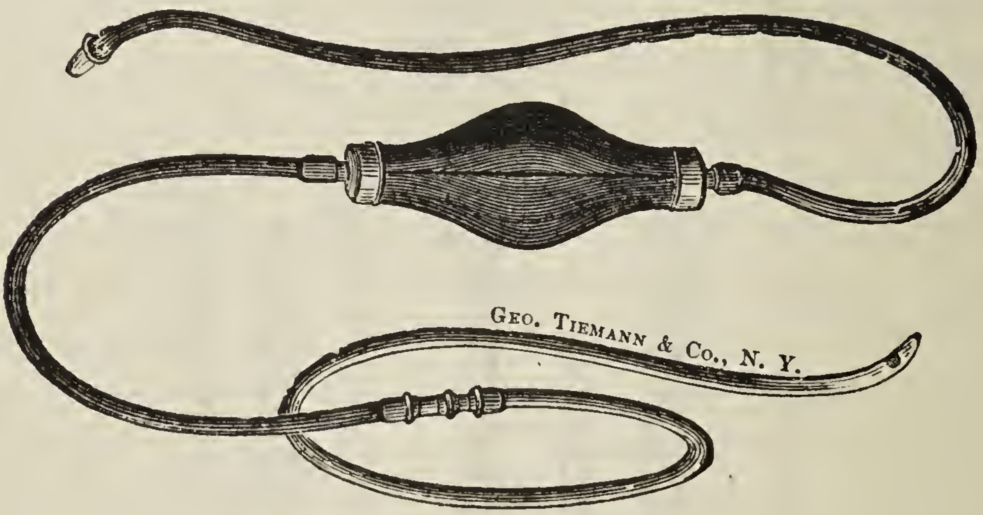


FIG. 3.


GEO. TIEMANN & Co., N. Y.

The preceding cuts represent three forms of the instrument. I have no practical knowledge of any but Fig. 1, in which, by simply pressing a valve, *f*, the suction is transferred at will to either of the two openings *b* or *d*.

Fig. 2 is an invention of Stohlmann and Pfarre, of this city. This pump is of hard rubber, and the suction is changed by shifting the stomach-catheter from one point of the instrument to the other.

Fig. 3 represents Toswill's "Improved Siphon Stomach-Pump." For this is claimed the merit of great simplicity and cheapness. The reversing action by which fluids may, at will, be pumped in or out of the stomach, and which is an essential feature of all stomach-pumps, is, in this apparatus, obtained by raising or lowering the vessel in which the fluid is contained. It is also claimed that the flexible tube of this instrument can be introduced down the œsophagus with a twisting movement, with less inconvenience to the patient than the more unyielding stomach-catheter ordinarily used.

This may be, but I can only say that upon several occasions when I have had to pass the old-fashioned stomach-catheter, I have not only found no trouble in its introduction, but have never known it to cause any pain, and comparatively little inconvenience. On the latter point I have interrogated patients, and have been assured by them that the presence of the tube in the stomach, and its protrusion from the mouth, although disagreeable, was by no means painful. I am inclined to think that the distress and inconvenience which have sometimes been caused by the introduction of the tube, have resulted in a great measure from one or both of the two following causes: In the first place, from a hesitating slowness in passing the point of the instrument through the pharynx, a feeling of strangulation is excited, and perhaps several attempts have to be made. Next, unless the natural physiological action of the œsophageal muscles be taken into account, and if the tube be forced down against the action of vomiting, pain most certainly will be caused, and possibly serious damage done to the œsophagus itself. I think both these difficulties may be avoided by observing the following general directions: We will suppose the patient able to open the mouth, or at any rate not holding it shut. The stomach-catheter *o a*, Fig. 1, should be warmed, oiled, and the hard, bulbous extremity bent downward somewhat forcibly, so as to retain a curve downward, starting just below the point *o*, at its junction with the tube. It will thus more readily turn the corner in the pharynx, and enter the œsophagus. The patient should if possible be seated in a chair, and the head supported and thrown back. The operator, taking the tube in the right hand, with the fore-finger upon and slightly projecting beyond the bulb of the catheter, carries the tube rapidly backward through the mouth, until the tip of the fore-finger strikes against the structures covering the vertebral column, when the finger should be at once flexed and the tube made to descend into the œsophagus for a short distance by gentle pushing with the left hand. If this stage be quickly got over, and the finger removed from the mouth, there will be ordinarily no feeling of suffocation whatever from the pressure of the tube. It then may be passed slowly down into the stomach, which operation will be much assisted if the patient be conscious and willing to try to swallow. Should vomiting occur, the tube should be held quietly where it happens to be, if already well beyond the pharynx. Some of the contents of the stomach will pass by its side, some be ejected through it; when the spasm is over, it may be gently passed downward. Should the action of vomiting be so violent and prolonged as to expel the tube, of course it may be taken for granted that probably no pump will be required in the case. The first thing usually done, after the tube is fairly in the stomach, is to connect with the pump, and inject a quantity of warm water, which is at once pumped back; and this process is repeated several times.

With the instruments sold are furnished explanations of the various forms of apparatus sometimes required, such as a perforated stick *e*, Fig. 1, to prevent closing of the teeth upon the tube, the screw *h* to force open the jaws, etc., etc., upon which I will not enlarge, and will conclude these remarks upon the stomach-pump by offering as an apology for having been so prolix in the description of so simple an instrument, and so easy an operation, this consideration, that, simple and easy though the operation be, lives have been lost from neglect of it.

Of the two cases of which I will now give the history, the one of opium-poisoning occurred some years since, but is now reported for the first time:

Case I. *Recovery after Poisoning by Aconite.*—Miss C., a young lady from a neighboring city, on a visit to friends in New York, took by mistake something more than one drachm of a mixture containing equal parts of the tincture of aconite-root and chloroform. Her own carelessness must be held solely to blame for mistaking the bottle containing the poison, for another, which held the simple medicine she intended to take. Both preparations were put up in her native city, the bottles about the same size, but the one containing the poison carefully and plainly marked thus—

"ACONITE AND CHLOROFORM."
POISON. LINIMENT.

As nearly as can be ascertained, the mistake was made about half-past eleven o'clock, A. M., February 2, 1875. The burning taste of the chloroform caused the error to be at once perceived. The patient took a potion of mustard-and-water, and immediately walked to my house, accompanied by a young lady friend. Starting from the point she left in Fifth Avenue, near Twentieth Street, to my house, which is the last one of the block in Nineteenth Street west of Fifth Avenue, is a distance I presume to be of about one-eighth of a mile. I allow for walking this distance not more than five minutes, and believe that not more than from fifteen to twenty minutes elapsed from the time the dose was taken before I saw her.

She had the presence of mind to bring the bottle with her, by which I was at once informed of the exact nature of the poison, presuming, from the word "Liniment," that the aconite was of the *root*, and was probably in large amount.

This presence of mind, on the part of the patient, and the perfect calmness which never deserted her, and which was also exhibited in a striking manner by her friend, helped me much in this sudden emergency, and contributed to save her life.

There were absolutely no symptoms at this time. I had in my pocket between fifteen and twenty grains of sulphate of zinc, which I gave her. Previous experience with narcotic poisons, however, had made me fearful of trusting too much to emetics, and I went down-stairs for a stomach-pump. Returning to the chamber, and finding that no vomiting had taken place, I introduced the tube of the stomach-pump at once, and pumped in something over a pint of warm water. On drawing this water back, it returned so impregnated with the poison, that the strong odor of chloroform was very perceptible. The aconite gave the water a dark tinge. I thus passed rapidly through the stomach nearly two quarts of water, and am convinced that none of the poison remained. Enough, however, had been absorbed to do deadly work, and numbness of the tongue and cheeks began to be perceived, before the operation of evacuating the stomach was finished, rapidly extending itself over the shoulders, and back, and down the arms. I now dispatched a messenger with a carriage for Dr. T. Gaillard Thomas, who came without delay, assisting me from the time of his arrival, with an untiring zeal and constancy which neither knew fatigue nor was willing to admit defeat at any time. In the interval which elapsed before his arrival, stimulants were administered which Miss C. was able to swallow, and I hastened to get my galvanic battery in readiness, since symptoms of some embarrassment of respiration were manifest. I had scarcely left the bedside for this purpose, and finished getting the battery ready, when the patient, articulating with great difficulty, said: "All is dark now, doctor, I cannot see at all;" and at once became unconscious.

Not more than two minutes before this, she had been able, with slight assistance, to totter with faltering and uncertain step, from the sofa to the bed.

The rapidity with which the poison, once beginning to act, overwhelmed life, was frightful to see. Dr. Thomas arrived at about half-past twelve, an hour after the poisonous dose was taken, and can corroborate this description of the patient's situation at this time, which was briefly as follows: Her breathing had become imperceptible, she was growing cold, and she was *pulseless. No pulse whatever could be detected, even in the axilla, and she remained without any trace of pulse for a period of over three hours.*

This is a point about which there can be no mistake, one to which our attention was both *constantly* and *carefully* directed. Are we not justified in believing that the records of medicine can furnish few cases of perfect recovery from so great and so *prolonged* a depression of the vital powers as is thereby indicated?

We put the battery in action at once. The two currents of a Gaïffé's faradaic machine being united, one electrode was applied on the right side of the neck, while the other was touched near the diaphragm over the solar plexus.

A deep inspiration followed. By breaking and closing the current about eighteen or twenty times a minute, the action of natural breathing could be imitated.

The current used was very strong, strong enough at each application to twist the neck and body to one side, yet it utterly failed at one time, during the first hour, to excite respiratory action, and we were forced to use Marshall Hall's "ready method," happily with success. Now, although respiration could only be excited and kept up by artificial means for some hours, of which means the galvanic current was the chief, the all-important one, yet we observed, as has been noticed in such cases, that there were *periods* when it was much more difficult, than at others, to keep up respiration. The lethal influence, which was benumbing the nervous system, although never receding entirely, yet at varying intervals came rolling in upon this young life, as it were in a great wave, and at some such times it was hard to say if that life had not been utterly overwhelmed.

This simile is one not sought for, but one which as it were forced itself upon us as apt, and the expression, "Another wave is coming"—"Will she come out of that?" was well understood by all in the room. It is to be noticed, that we early found it essential, in order to excite respiration, even with the powerful means at our command, that the *head should be very low*, and the foot of the bedstead was kept upon chairs. Even after consciousness had returned, the tendency to syncope was marked, and, all attempts to lower it inducing faintness (as indicated by pallor, and sighing respiration), had to be abandoned. At the end of the first hour, or thereabouts (for naturally it is hard, in such an emergency, to note exactly time), we were in face of the following situation: We could, it is true, maintain a sort of respiration even through the worst of the "waves" or crises, yet they showed no abatement either in frequency or duration. The body was becoming quite cold, no higher temperature being observed at this time, in the mouth, than between 95° and 96°, cyanosis marked, not only the face being darkly blue, but the same color being observable under the nails. Acting upon the happy inspiration of Dr. Thomas, who had tried with a good effect the administration of pure oxygen gas mingled with common air in the cyanosis of croup and pneumonia, a cylinder of this gas had been procured, and we now proceeded to use it in the following way, which I will describe for the benefit of those to whom the process may be new:[1] A small rubber-tube being connected directly with the copper reservoir, the other end, terminated by a small nozzle, was inserted in one nostril, leaving the other free to admit common air. A small jet of gas being now permitted to escape, on closing the galvanic circuit the lungs were filled with this highly-oxygenated air. Keeping up artificial respiration with this new powerful agent to help, good effects were soon seen in a lessening of the lividity of the face and lips, and a less corpse-like look generally. The amount of oxygen used in this case was four hundred gallons. More than three hours we know, how much *less* than *four* we cannot fix accurately, from the time all pulse ceased, and nothing but a feeble, uncertain flutter could with difficulty be made out at times over the region of the heart, and after artificial respiration aided by oxygen had been maintained for about two hours, a feeble thrill at the wrist could, to our great joy, be detected. It was not much, it was not constant, but it was sometimes there, and that was a great source of hope.

By 5 P. M. the patient was so far restored as to articulate a word or two feebly, and it was believed that the battery might now be stopped, and respiration trusted to Nature. This came near being a fatal error. Before 6 P. M. a crisis of unusual severity occurred, and, although both the battery and oxygen were at once put in action, there was a time when we feared they had failed us at last. It was evident that the danger to be apprehended *now* was death by coma, the patient's condition being as follows:

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[1] Oxygen gas, W. E. Gladstone, No. 1291 Broadway. Open all night.

Strong tendency to sleep, which, if permitted, showed a sure and rapid tendency to pass into a death-like coma. The pulse would grow more and more feeble, and disappear altogether. To the numbness of the skin had succeeded a state of hyperæsthesia of a sensitiveness so acute that she could be roused by a current from the battery so feeble as to be almost imperceptible to others, but sinking back at once into coma on its discontinuance. When so roused, she generally gave a sharp scream, and uttered some expression of distress and desire that "we would cease to torment her," painful, doubtless, to friends about her, but, I confess, music to my ears, as evidence that she could be kept from sleeping, we having made certain that such a sleep, if allowed, would know no waking.

Now, it may be asked, whence this tendency to fatal comatose sleep?

Indirectly the effect of the aconite and chloroform, but directly, I think, resulting from the state of the kidneys and paralysis of their excretory functions from those poisons. A specimen obtained about 6 P. M. showed that the kidneys had scarcely acted at all during the day, and the secretion was loaded with albumen and fragments of casts.

The action of the battery was kept up constantly all night. If discontinued for more than ten minutes, the pulse would flag at once, and coma come on.

At 5 A. M. the kidneys having resumed their activity, the sleep became natural, and the use of the battery was dispensed with, after having been in almost constant use for about sixteen hours. The specimen at this time obtained was copious in amount, and loaded, as before, with albumen and fragments of casts. This state of things has, I am happy to say, entirely, and I trust permanently, passed away.

I should perhaps here advert to some of the lesser points in the treatment of this case, such as external warmth with bags and bottles of hot water, frictions of the surface, etc. As no stimulants could be given by the mouth, and no enemata were retained, after consultation I injected, hypodermically, thirty minims of cognac. I repeated this six times at different intervals during the afternoon. I hope this form of stimulation was of service. None of the punctures have caused any trouble; I thought perhaps they would; but, had I been previously assured of it, I should, in this case or any similar desperate strait, have used the instrument all the same.

The patient's condition at the present time, February 13th, is very good. She has an excellent appetite, and sleeps naturally and well. She was a little inclined to faint when sitting up at first, and still finds the recumbent position most agreeable, as is natural, being weak.

Two abrasions of the skin are quite painful. They were unavoidable, and were caused by the various remedial means employed, especially the galvanic current, applied to a skin in which the circulation was very sluggish, and which caused the skin to abrade wherever it had been exposed to friction. They are getting better very fast. For several days she could recall nothing whatever of what had passed, and could not imagine how she came to be where and as she was. Slowly, however, all has come back, and she remembers pretty well all that occurred up to the time of her becoming insensible. I can see no present reason for doubting that very soon she will be perfectly well.

I desire to express my thanks to Dr. S. Beach Jones and to Dr. Alfred S. Dana, who attended during the night to the application of the battery and the care of the patient, and who also made the analyses.

It is hoped that the management of this case may commend itself to the favorable judgment of the profession.

I append the following letter received from Prof. Thomas:

> "My dear Dr. Blake: I have read your manuscript-notes of the case of Miss C., and it appears to me that you have stated it very fairly. Certainly if you have erred in description, it has been by understating rather than by overstating its details. Never in my experience have I seen any one, whose vital forces were so profoundly, and for so long a time, depressed, finally recover. At one time, for the space of from twenty to thirty seconds, I supposed Miss C. to be dead. It was while Marshall Hall's method was being practised.
>
> "Allow me to congratulate you upon the successful issue of this interesting case. Very truly yours,
>
> "T. Gaillard Thomas.
>
> "296 Fifth Avenue, *March* 5, 1875."

Case II. *Recovery after Opium-Poisoning.*—Called about 10 A. M. to Miss L. S. by a servant, who told me she had just swallowed, by mistake, a large quantity of laudanum.

I think, allowing the messenger a reasonable time to come from the patient's house to mine, counting the brief delay at my office to gather up what I wanted to take with me, and the time required for me to reach the patient's house, that nearly one half-hour had elapsed after the poison was swallowed before I saw her. As in the case just related, the mistake had arisen from the carelessness solely of the lady herself. There were two bottles about the same in size and general appearance, one of which contained the tincture of aloes and myrrh, commonly known as elixir pro., the other tinct. opii, and distinctly marked "Laudanum." The lady, wishing to take a dose of the former, had by mistake turned out what I estimated as about two ounces of laudanum, and swallowed it, holding her nose firmly, to avoid as much as possible tasting what she took. As she turned to leave the room, she caught sight of the label on the bottle. She dispatched a messenger for me at once, and took a large potion of mustard-and-water. When I arrived, I found this had had no effect whatever; neither did a powder of sulphate of zinc, which I immediately gave her. I proceeded at once to introduce the tube of the stomach-pump which I had brought with me as a matter of precaution, but with very little idea that I should have to use it, since, having been for quite a time this lady's physician, I had found out that she had naturally a most irritable stomach. The least tickling of the throat would generally induce vomiting; in fact, the slightest causes would do so.

Now, however, all the disagreeable manipulation required to introduce the tube failed to excite vomiting; and I was obliged to evacuate the stomach with the pump. Laudanum was evident enough in the first trial, both to sight and smell. The second pint of water injected returned only a little tinged; the third almost unaltered. I then threw in something less than one half-pint of strong coffee, and directed the most active means to be employed by the whole family to keep the patient aroused. Not the least efficient of these means was the galvanic current which was found to be most effectual with the patient sitting erect. I am happy to say that the case was thoroughly successful, and the lady suffered no after-effects from what she had taken, or from the rough means employed to keep her aroused.

To one point in this case I would call special attention, and that is, the great length of time that the battery was required to be kept in action, to prevent unnatural sleep. After the patient had in a great measure recovered, as it seemed to me, from the immediate effects of the opium, after the pupil of the eye showed plainly that such was the case, a tendency to sleep came on which it was necessary to vigorously combat, and which tendency to coma I now believe, in the light of further experience, to have been of uræmic origin. That the secretion of urine was almost suppressed I know; that a specimen of it was not carefully examined, I shall now always regret.

I venture to add in conclusion, in reference to the mistakes which gave rise to these cases, that, although in both the druggists by whom the preparations were dispensed must be held blameless, as having taken every *usual* precaution to prevent mistake, yet it may reasonably be doubted if such precautions are sufficient, and if those allowed to sell poisons should not be required to put them up in bottles of such peculiar shape and construction that the dangerous nature of their contents should be at once known, even by the sense of touch alone. Some apothecaries do so put up poisons, but it is by no means a general custom.

Before Miss C. was able to leave her room, and within less than two weeks, I was called hastily to another lady, who, mistaking one vial for another, had swallowed a preparation intended as a wash for her eyes. Fortunately the prescription was not of a dangerous character, but the mistake illustrates just as clearly, for all that, the necessity of distinguishing bottles containing poisons, by some striking salient peculiarity, the use of which should, I think, be made obligatory, under heavy penalties for each and every case of neglect. Such bottles would come eventually to be as quickly and universally recognized as indicating danger, as a red flag or lantern.

Moreover, it is too easy in this country for any one, upon the most frivolous pretexts, to obtain (and in any quantity) the most potent drugs. Without going so far as to say such should not be dispensed save upon the order of a licensed practitioner of medicine, I have thought that, if every one purchasing poisons without such an order were required to give a receipt for the same indorsed by some other person, it would act perhaps as some check upon sales to irresponsible people, and cause but slight inconvenience to those buying poisons for proper purposes.

New Instruments.

The Dome-Trocar; its Application to Ovariotomy, Aspiration, and Transfusion.[1] By Simon Fitch, M. D. (Edinburgh), New York.

The trocar, formerly little valued, and seldom used, has recently attained a high rank in the surgeon's armature, and is now, even in its yet imperfect form, constantly employed in the detection, discrimination, and treatment of diseases which without its aid were occult or obscure, and intractable.

Many of these diseases, such as hydrothorax, and empyema, hydropericardium, hydatids and abscess of the liver, tympanites, strangulated hernia, retention of urine, with impermeable urethra, hydrocephalus, spina bifida, and various hurtful collections of fluids, cystic or free, are situated in, or adjacent to, either the lungs, or heart, or brain, or spinal cord, or abdominal viscera, or pelvic organs, or the great joints; and, when we consider how these sensitive and vital structures demand careful protection against all mechanical injury, beyond what is essential to the discovery and extirpation of their ailments, it will be evident that the instrument used in or upon such parts, whether for exploration or treatment, should be—

1. *Easy of insertion*, so that it may not bruise, lacerate, or stretch the walls of the cavity to be entered, nor disturb the connections or relationships of neighboring parts.

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[1] Read before the Medical Society of the County of New York, February 9, 1875.

2. *Harmless when inserted*, so that it shall not injuriously abrade, nor scratch, nor puncture the interior of the cavity or adjacent structures.

3. *Competent to give the freest exit*, consistent with its size, to the fluids which are to be discharged.

4. *Apt to leave*, upon withdrawal, *such a wound as will most readily heal.*

The old trocar, with its canula fitting more or less loosely behind the triangular head, is a clumsy and dangerous instrument.

The aperture made by the point of the instrument is forcibly dilated by the bulging occiput of the trocar's head. Then the split end of the canula does not pass in smoothly, but as it is expanded, in being pushed forward over the head of the stylet, is liable to get entangled in the tissues at the edges of the triangular aperture, and so fail to enter perfectly, or, if forced in, past the obstruction, the orifice is still further stretched and the edges irritated, or perhaps lacerated; and, upon the withdrawal of the instrument, there is left a jagged, punctured wound, indisposed to heal by the first intention.

In 1850 Sir James Simpson had the head of the stylet reduced to the same size as the shaft, so that it should stretch the orifice less, and, as the canula could then be advanced without spreading, he omitted the split in the end, and Sir James at the same time announced his employment of a long, slender trocar, with an exhausting syringe attached, as a means of diagnosis in various internal enlargements, especially in pelvic tumors, and so initiated the idea which Dieulafoy subsequently elaborated into his admirable aspirator.

The idea of making the canula itself pointed, so as to penetrate independently of the stylet, was first suggested in 1853 by Fergusson, of London, who contrived a pen-like, tubular needle, for injection of perchloride of iron in the treatment of nævi and aneurisms.

In 1858 Dr. Alexander Wood, of Edinburgh, adapted this instrument to the subcutaneous injection of morphia, and a modification of the same instrument is now in universal use.

Spencer Wells shortly afterward enlarged this little tubular trocar for ovarian tapping, and made the edges of the pointed end sharp and cutting for one-half the circumference of the tube, whereby a semilunar cut is made (if sharpened all round it would cut out a circular piece and leave a round hole), and he added a sliding outer canula, which, upon puncture being effected by the cutting point of the inner tube, is pushed forward as a guard against further action of that point.

This instrument, superior in many respects to the old trocar and canula, especially in respect of the wound made by it, being incised rather than punctured, has still in common with it this grave fault, that the protecting tube is on the *outside*, and if made thin, so as to pass more easily into the aperture made by the point of the inner tube, the open end becomes a cutting edge, dangerous to the interior of the cavity, and to the contained or adjacent viscera, as the bladder, when the contents are discharged by puncture, or the heart in tapping of the pericardium, or the lung in paracentesis thoracis, or the intestine in tapping for ascites. (The outer tube is sometimes obtusely pointed so that it may enter more easily, but this makes it more dangerous to the interior.)

But, if the terminal edge of the outer tube be blunted or made thicker, so as to better protect the interior, then it necessarily presents a resisting margin or shoulder outside and behind the point of the inner tube, liable to catch and carry before it the sac, or the immediate investment of the cavity, and so fail to properly enter.

Now, this accident may occasion considerable inconvenience, or even be productive of great harm, in cases of merely simple tapping, as, for instance, in hydrocele, where, if the tunica vaginalis is not very tense, it is oftentimes extremely difficult to get the outer canula pushed in over the puncturing end; and, in emphysema with a thick and tough pleura, so much force is sometimes required to urge the entrance of the outer tube as to really endanger a separation of the membrane from the ribs. And in tapping for the temporary relief of ovarian dropsy, if the outer tube do not follow the trocar quite into the cyst, or if, in entering, it catch and tear or split up a fragile cyst, more or less of the cystic fluid will escape into the abdominal cavity and is one cause of the fatality which sometimes follows this simple operation.

But should *injection* be attempted with an imperfect introduction of the protecting tube, whether that tube be the canula of the old trocar, or the outer tube of Wells's trocar, the result may be most disastrous.

I have seen intense peritonitis occasioned by tincture of iodine thrown upon the peritonæum in such an attempt to inject an ovarian cyst.

And Syme, in his "Principles of Surgery," noticing a like faulty injection for cure of hydrocele, remarks: "If the liquid is allowed to remain in the cellular substance, it gives rise to violent inflammation, and soon terminates in sloughing of the scrotum."

I encountered on many occasions difficulties similar to the above, and in common with others tried to obviate the uncertainty of entrance of the outer canula by cutting down to the peritonæum, or pleura, or tunica vaginalis, or whatever might be the immediate investment of the fluid to be evacuated or the cavity to be entered, until it occurred to me to reverse the relation of the tubes to each other, and while in Edinburgh, in 1871, I had an instrument made by Gardner upon the following plan: The outer tube, smooth and of uniform size, has the distal end pointed and cutting, like a lancet, so that it penetrates easily and to any depth, without the necessity for previous incisions of superimposed tissues, and the protecting tube being *inside* may then be advanced into the interior of the cavity, with absolute certainty of entrance, and without the possibility of even touching the margin of the aperture, or any of the tissues through which the outer tube has passed. The cutting edges of the puncturing-tube should rise from the point, not suddenly, nor in a curvilinear form, but gradually, and in a perfectly straight line, making an angle of less than 45° with the pointed side of the tube, so that it shall enter by a clean incision, and without stretching the aperture.

Instruments similar to the above were made for me by Krohne & Sesemann, in May of that same year, and were exhibited at the next meeting of the British Medical Association in London, August, 1873. The largest size is noticed in Spencer Wells's recent work on "Diseases of the Ovaries," p. 336. But the smaller-sized instruments seem to have been overlooked, for Mr. Alfred Goodrich, in a letter to the *British Medical Journal*, August 8, 1874, says: "In emptying a cavity with the aspirator, the operator is often alarmed by finding the instrument filled with blood, arising from the walls of the collapsing cavity being forcibly sucked against the sharp point of the needle;" and he proposes, as if it were his own idea, that the trocar consist of two tubes, the outer one pointed, the inner one not so.

But in the *Journal* for August 22d, Mr. George Brown, of the Northeastern Hospital for Children, referring to Mr. Goodrich's suggestion of a trocar guarded by an inner tube, remarks: "The idea is not original; we have had one in constant use for more than twelve months, which was supplied by Messrs. Krohne & Sesemann," who were the makers of my instrument in 1871, and which in the catalogue of the museum at the forty-first annual meeting of the British Medical Association is designated "Wells's Trocar, improved by Fitch."

Yet *this* instrument is *not perfect*, for, although the certain entrance of the protecting tube is securely provided for, against possibility of failure, yet the open end of this same tube may itself be a source of danger, especially in the aspirator trocar, when it must be made very thin to avoid bulk.

In the August number of the *Journal* just quoted, a correspondence appears in reference to a successful paracentesis for hydrops pericardii, where Mr. Singleton Smith, upon whose patient the operation was performed, admits the risk which accrues from not only the point of a trocar allowed to remain within the cavity of the pericardium as the fluid drains off, but also from the sharp edge of the canula rubbing against the pericardium, or coming into contact with the beating heart.

And about the same date, the *Lancet*, under the head of "Medical Facts," observes that in "tapping of the chest when the fluid has been evacuated by the exhausting apparatus, the lung in expanding may strike against the sharp and hard canula. To prevent this, M. Béhier, of Paris, uses a canula of soft metal to be introduced into the ordinary tube, which, when the pleura is emptied, bends down against the parietes of the chest, and the lung does not suffer."

Now, a tube of soft metal cannot be safely drawn very thin, and, were it made large enough for the bore to be permeable to fluids, it would be too bulky to enter a small canula.

Again, were it used with a tubular trocar, it would, upon bending down, leave the *point* of the trocar exposed. Or, if used in conjunction with the old trocar and canula, the stylet would have to be removed before the soft tube could be inserted, and then it would interfere with the adjustment of the aspirator, unless pushed in beyond the attachment of the aspirator, when, if it became bent down against the parietes of the chest, it would be in danger of slipping into the cavity upon the withdrawal of the canula. But an insuperable objection to this contrivance is, that the impingement of the lung against the soft-metal tube upon any sudden movement of the patient, or from the coughing which generally occurs during the evacuation of the chest, and the consequent expansion of the lung, would bend down the tube prematurely, and stop the flow of the fluid.

I have now to announce a *most important* modification of the double tubular trocar, which covers the danger of the open canula, and by which the instrument, while performing its ordinary functions safely and efficiently, shall be a trustworthy exploring probe or sound; and by which I believe many lives will be saved.

I have had the distal orifice of the inner canula closed over by a rounded or dome-shaped roof, so that, when *it* is projected beyond the cutting-point of the outer canula, the two tubes fit closely together, and the end of the combined instrument feels perfectly smooth like the end of a sound or catheter, and may be freely moved within the cavity penetrated, as the ovarian cyst, the abdomen, the thorax, the bladder, or even the pericardium, without danger of wounding any viscus or organ, puncturing any vessel, or even scratching or abrading the lining of the cavity, or of any parts contained therein. The base of this dome being of the same external circumference as the inner tube, and fitting the outer tube accurately, when the point of the instrument enters a cavity there can be no escape of fluid, till the dome is advanced, occluding the cutting-point of the outer tube; then there is disclosed a fenestra or oval aperture on *the under side* of the inner tube, cut out of the lower wall and one-third of each side-wall, of the full size of the bore of the tube, and by which the fluid may be freely evacuated. The segment in the tube forming the distal end of the fenestra is sloped off toward the dome, so that a flake of plasma or accidental piece of tissue resting upon it will easily slip off upon the instrument being moved. But the lip at the proximal boundary of the segment projects, in a curve, over nearly a third of the fenestra, so that the fenestra may not be obstructed by any substance in the cavity.

The trocar thus constructed is harmless to the parts requiring protection, and the fenestra, so guarded and being moreover on the under side, cannot be stopped by the wall of the cavity coming into contact with it, as often happens to the open end of the old canula, nor by the falling upon it of the viscera or any layer of false membrane; and, if there be an aggregation of cysts or a multilocular sac, the instrument may be employed as a probe or sound, or a long artificial finger, with which to feel for a proper place, where it may be held till the cutting-point is advanced to make an aperture for its introduction.

Thus, in ovariotomy it will be found extremely convenient, the left hand supporting the tumor and the right holding the instrument, which can be instantly changed, by an easy movement of the same hand, from a trocar to a sound and *vice versa*, to define and puncture cyst after cyst, until the bulk of the whole is sufficiently reduced to admit of withdrawal through the abdominal incision, and with only one outer aperture in the sac first punctured, and this always occupied by the instrument; and the dome-trocar may be here used, where the end of the open tube could not be safely, to stir up and liquefy loculose contents, and to break down such obstructions to the flow as imperfect septa and membranous intersections, while it still plugs the original aperture, preventing the escape of cystic fluid into the cavity of the abdomen, and may oftentimes obviate the necessity of enlarging the aperture in the cyst for the introduction of the hand.

And, in operating against hydatids, as, for example, of the liver, the dome-trocar of small size may be used to dissever and disintegrate the hydatids, while the aspirator is extracting them through the same instrument. Or it may be employed to search for and drain off the last drops off urine during aspirato-puncture of the bladder, which we dare not do with the end of the open canula.

In the ovarian trocar, and in the trocar for paracentesis abdominis, the inner tube is advanced or retracted, and fixed in either position, by means of a thumb-rest. A curved metallic tube, fitting upon the proximal end of the outer canula, serves as a handle, and directs the current downward, and one end of an India-rubber tube three feet long may be drawn over the lower orifice of this curved hollow handle to conduct the liquid into a receiving-vessel. The middle of this tube is expanded into a bulb by which the flow through the tube may be promoted or hastened, and the cavity more rapidly and perfectly exhausted, or washed out or injected. The handle is fastened by a screw on the right side, and can be removed, and the tubes separated for cleansing. For the original idea of the thumb-rest and the handle, I am happy to thank Dr. Thomas Keith.

The wooden ring with Wells's grapples may be slipped upon the instrument. Or light, long clamp forceps may be used, with numerous teeth in the broad distal ends, by which the sac may be easily seized immediately upon or even before puncturing, and, being held in the hand with the trocar, accommodate themselves readily to the varying distances to which the trocar enters; or they may be attached to the instrument by a sliding ring, narrower than Wells's, or by a shifting ratchet.

The smaller sizes have no handles, for, owing to their fineness, they will enter with very little force, and it is generally desirable to attach the aspirator either before or immediately after puncturing.

The *attachment* is instantly effected by pushing the conical end of the aspirator-nozzle into the proximal end of the inner tube, and fixing it by one turn of a ring-nut, like a hose-coupling, which makes the joint perfectly air-tight, and without moving either the trocar or the aspirator.

When an India-rubber tube is used between the nozzle and the aspirator, a bit of glass-tubing, with a flange on each end, is fitted into it near its attachment to the nozzle, and similarly into the India-rubber tube of each of the larger-sized trocars, so that the current may be observed, or its absence noticed.

A hole or window may be made in the middle of the outer canula, with a similar hole in the inner tube, so situated that, if the inner tube be advanced, say, half an inch for the smaller and an inch for the large sizes, beyond its ordinary full projection, then the two openings shall correspond, and a silver probe or whalebone stylet may be introduced from these corresponding apertures to or through either end of the trocar without removing it from the cavity, and without detaching the connection with the syringe or aspirator.

To favor this clearing of the distal portion of the trocar, the dome is made solid, with the base slanting in such way as to throw out of the fenestra any probe, or wire, or stylet, inserted from below, and, with it, any obstruction of this orifice.

There is a very important operation which I think may be performed by the aid of the dome-trocar with great ease and safety. I refer to *transfusion.* A trocar of suitable size having been attached to each end of an India-rubber tube a foot long, with the middle expanded into a bulb, one of the trocars is inserted into the vein which is to furnish the blood, and, when the apparatus is filled, the other trocar is introduced into the receiving-vein, and the operation is completed.

The receiving-vein should be exposed by a short incision, but the supplying-vein will generally be sufficiently prominent to be entered without previous dissection.

In the ordinary mode, after cutting down to the vein, an incision or puncture is made into it, preparatory to the introduction of the tube. Now, it is difficult to get the end of the tube commonly used into the puncture, if only of the exact size to admit it; and, if the puncture be larger, a ligature upon the vein around the tube is afterward almost indispensable, to prevent leakage and waste on one hand, and admission of air on the other. But, with the dome-trocar, no previous opening of the vein is required, the puncture being made with the lancet-like point of the instrument itself. The tubes pass in instantly and with absolute certainty, and so accurately fill the incised puncture that there can neither be escape of blood from the vein, nor entrance of air into the vein from the outside of the tube; and, as, after the apparatus is filled, the tubes are closed by the domes up to their very ends, neither can there be any entrance of air through the tubes. As soon as the lancet-end of the outer tube is inserted, the dome is projected from the interior, and the tubes, thus guarded, may be safely pushed as far as required, downward into the furnishing-vein, and upward into the receiving-vein, and no ligature will be needed. Thus time, so valuable in this operation, is saved, disturbance of the vein is avoided, and injury to the interior of the vein need not be feared. The anastomosis between the veins being thus established, the flow from the supplying to the receiving vein will probably go on spontaneously, or may be favored by gentle manipulation of the elastic bulb. The tubes are closed and opened, at their distal ends, by retraction and projection of the domes; no other valve or stop-cock is needed in the apparatus.

If the mediate method is preferred, a common glass or metal cylinder-syringe, with the piston removed, and the nozzle inserted into a flexible tube, armed with the trocar closed, will be a suitable reservoir, into which the blood may be caught as in ordinary venesection; or the blood may be defibrinated by whipping, and strained into the syringe; then inserting the trocar, we need not replace the piston, for sufficient and more steady propulsion may be obtained by merely raising the syringe. It would be wrong to force into the vein any clot which might obstruct the instrument. Mr. Wagstaffe uses a nozzle, with the hole half an inch from the extreme point, which he introduces through a puncture, and ties into the vein; this nozzle may be withdrawn sufficiently to expose the hole for the removal of obstructions, while the closed end still remains within the vein; and the expedient might be applied to this instrument by merely placing the fenestra farther from the distal end. But so little time is required for the operation with the dome-trocar that a clot, which is the only obstruction to be anticipated, need never occur. Should the plan, however, be adopted, the end of the canula beyond the fenestra should be solid, to prevent clotting from lodgment of blood there; and the trocar, so modified, should be reserved for this one operation, as the long projection of the end beyond the fenestra would be a disadvantage in all other cases for which the instrument is required.

The hole in one side of the nozzle, as used by Mr. Wagstaffe, would be in danger of occlusion from the contiguous wall of the vein; in the dome-trocar this is provided against by having the proximal end of the fenestra protected by a curved projection of the tube-wall, open at the sides, as previously described.

I believe the dome mounted upon a long steel spring, instead of an inner tube, may be used within a catheter-shaped puncturing canula for tunneling the insurmountably enlarged prostate, and perhaps applied to internal urethrotomy and laryngotomy.

The instruments may be of any size. Of those which I have had made, the largest is the *ovarian trocar*, which has a total length of twelve inches, the handle being four inches, and the inner canula, besides the portion within the handle, eight inches, with an internal diameter of half an inch. Dr. Washington L. Atlee used this in his last ovariotomy, and expresses unqualified approval of it.

That for *paracentesis abdominis* is exactly half the size of the ovarian trocar.

These larger sizes are of German silver, with the cutting portion of steel. The smallest sizes correspond in calibre with Dieulafoy's aspirator-needles, but are longer, being five and one-half to eight inches in length, for exploratory sounding, for emptying deep cavities, and for other purposes previously named. They are *aspirator-needles*, the contact of which will not harm, more than a smooth probe, the brain, the spinal cord, the lungs, the heart, the intestines, the bladder, the joints. These aspirator sizes have both canulas made of very thin steel. I owe much to the enthusiasm and dexterity of the Messrs. Tiemann, who have accurately and beautifully made all these instruments.

Perhaps I overrate the value of the *dome-trocar*, but I do hope the instrument is nearly what I assumed the perfect trocar should be: *easy of insertion; harmless when inserted; competent for the free passage of fluids; leaving a wound ready to heal.*

Figs. 1, 2, 3, represent the ovarian trocar; 4, 5, the aspirator needles.

The intermediate sizes for paracentesis abdominis, hydrocele, paracentesis thoracis, and transfusion, are sufficiently expressed by one or all of these figures.

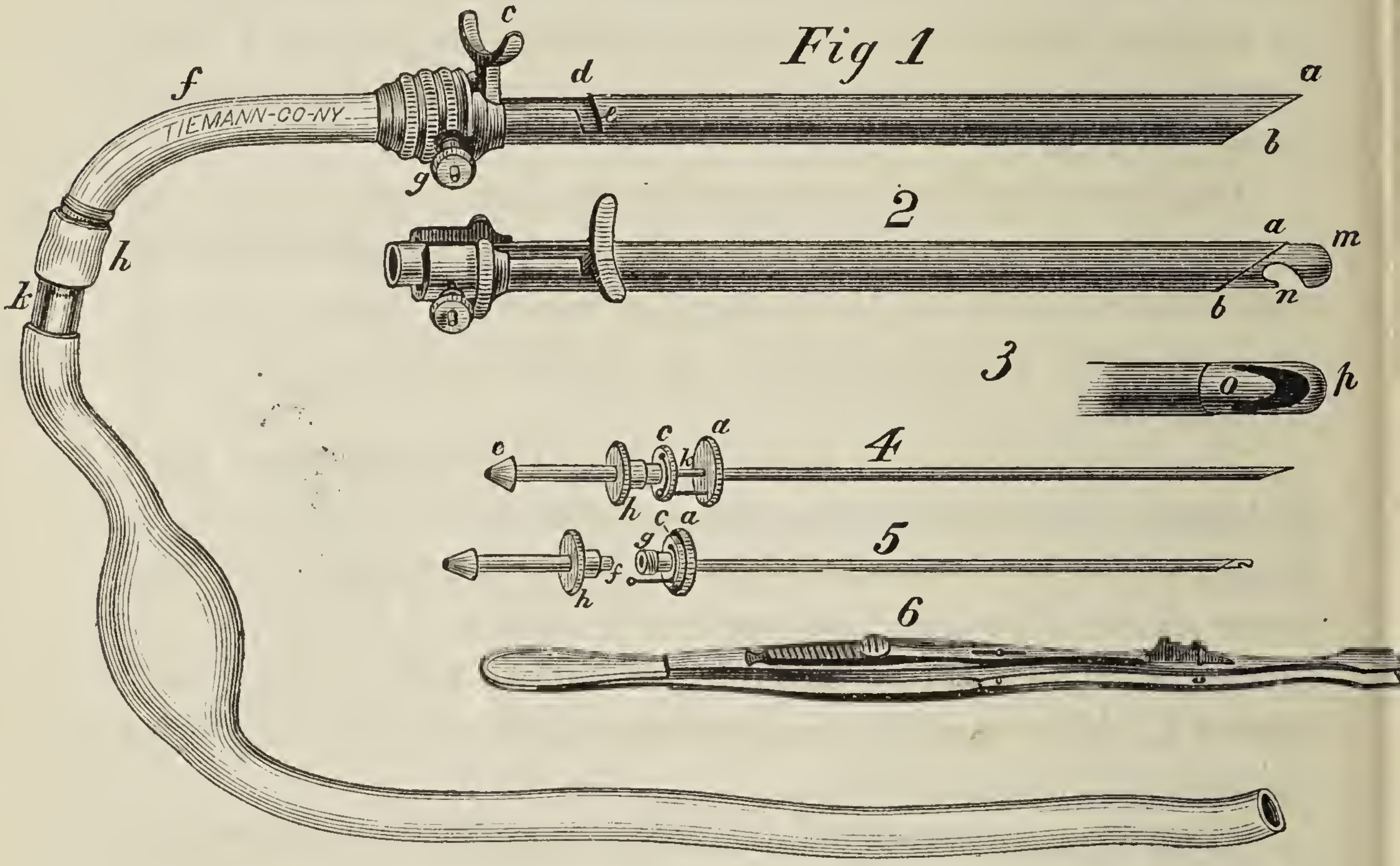

Fig. 1 has the dome retracted, disclosing the point and straight cutting edge (*a b*) of the outer canula, and excluding the instrument behind the point, against ingress or egress of fluids.

The thumb-rest (*c*) attached to the inner canula may be pushed forward in the slot (*d*) and turned into the branch-slot (*e*), advancing the dome and bringing the fenestra to the under side (as in Fig. 2).

The tubular handle (*f*) has the larger end fastened upon the outer canula by the screw (*g*).

A recess in this end of the handle holds an India-rubber washer, which, fitting closely around the inner or dome canula, makes the continuity of the long India-rubber tube with the interior of the instrument virtually air-tight, and sufficient for all requirements in ovariotomy or in abdominal tapping.

But, should absolute imperviousness be desired for perfect exhaustion, or for injection of a cavity, the *handle* may be reversed, the smaller end (*h*) screwed upon the proximal end of the *inner* canula, and the orifice of the India-rubber tube drawn over the larger end of the handle.

Or the *aspirator* may be attached to the inner tube, either directly or with the intervention of the handle. The instrument, as at first made, had the handle continuous with the inner canula, and the thumb-rest upon the *outer* tube; but it is not so easily worked with one hand as in the present arrangement.

The India-rubber tube is shown in this figure with a bit of glass tube (*k*), by which the presence and character of the fluid may be observed, or its absence noticed.

The bulb is a *simple expansion of the tube*, so as not to interrupt the easy flow of fluid, or to whip the blood in transfusion, as might occur were the bulb connected by any sort of joint with the tubes, between which it is placed.

This bulbous tube may be used for the ordinary emptying or washing out of cavities, or for aiding the current from vein to vein in direct transfusion, or for quickening the flow from the elevated reservoir in mediate transfusion if it seem sluggish.

Fig. 2 shows the proximal end of the inner canula, projecting, to which the smaller end of the handle may be screwed, or the aspirator attached.

In this figure the thumb-rest is pushed forward, and turned into the branch-slot, projecting the dome (*m*) which sheathes the point and cutting edge (*a b*) of the outer canula, and disclosing the fenestra cut out of the under and side walls of the inner canula.

(*n*) in Fig. 2, and (*o*) in Fig. 3, show the curved process of the lower wall of the inner canula underlying the proximal third of the fenestra to prevent occlusion from contact of the sac or the vein-wall, or any other substance.

Fig. 4 is the aspirator needle with the dome retracted, and the nozzle attached.

Fig. 5, the dome projected and the nozzle detached.

(*a*) is a circular plate or disk, by which the outer canula is advanced, or retracted upon the inner canula and dome, dispensing with the slot incident to the attachment of the thumb-rest to the inner tube.

(*k*), a rod, playing in the slot (*c*), by turning which the tubes may be taken apart for cleansing

(*e h*) the nozzle corresponding to the tubular handle of the larger sizes (*e*), the proximal end over which the India-rubber bulbous tube, or the tube of the aspirator, may be drawn.

(*f*), the distal end, *conical*, to be inserted into the *funnel*-shaped end (*g*), of the inner canula, and tightened and fixed by the hose-coupling nut (*h*).

Fig. 6 the *clamp forceps*, to be made light and slender.

Where the trocar is used for injection, the end of the inner tube, instead of having one fenestra, might be perforated with numerous small holes, so that the injection should issue from them in the form of spray.

Clinical Records from Private and Hospital Practice.

I.—*Pregnancy, with Total Absence of the Usual Signs; Still-born Fœtus at Full Term, with Congenital Lipoma attached to the Roof of Mouth and Base of Skull.* By J. Williston Wright, M. D., New York.

On December 31, 1873, I was called to see Mrs. X., on account of general debility, cough, and an absence of the menstrual flow during the previous six months.

The patient, a small, delicate-looking woman, stated that she was thirty-four years old, had been married seven years, and had occasionally been irregular, with regard to the catamenia, from girlhood, having several times during her life "*seen nothing*" for three or four months.

She had never been pregnant, and, although she had not menstruated since July 2d, did not believe she was in that condition now, as she had not been troubled with morning-sickness; had never experienced quickening, and in fact, had never had any symptom calling her attention to the possibility of the existence of pregnancy.

A physical exploration of the chest revealed only a slight bronchitis.

The breasts were small and flabby.

The nipples undeveloped, and the areolæ of a normal, virgin color, with an entire absence of enlarged papillæ.

The abdomen was somewhat enlarged, but the patient assured me that her "belly" had always been prominent; and, upon palpating the parts, I could not distinguish the presence of any solid tumor.

An examination, by vaginal touch, showed the os uteri to be perfectly closed, and the cervix unusually long.

Ballottement was tried, but gave an entirely negative result.

Finally, by conjoined manipulation, I was enabled to recognize the fact that the uterus was enlarged to about the size of that organ at the fifth month of pregnancy; but, after repeated examinations with the patient in different positions, was wholly unable to obtain any reliable sign of the presence of a solid body, much less of a living child *in utero.*

Under these circumstances I was constrained to defer the diagnosis to a future time, feeling sure that I had to deal either with pregnancy, or with a uterus distended with retained menstrual blood; and, as there had been no symptoms pointing to the latter condition, was inclined to give the former the benefit of the doubt.

The patient was ordered a quinine-and-iron tonic, with some simple expectorant mixture for the cough; was recommended to go out of doors as much as possible, and to have a nutritious diet.

February 10, 1874.—General condition very much improved; no cough.

Abdomen considerably larger than at last report, but has none of the firm, solid feel ordinarily conveyed to the hand by the presence of a gravid uterus; on the contrary, the soft, fluctuating, tremulous sensation conveyed by a simple ascites is present; the slightest tap with the finger, at any point of the abdominal parietes, setting in motion a wave which is immediately transmitted to the opposite side.

By vaginal touch the cervix is still very long, and the os perfectly closed.

Ballottement negative as before.

Patient says she has never "felt life," and palpation not only fails to elicit that sign, but also fails to recognize the presence of any thing more than fluid in the abdominal tumor.

No change in the breasts, and patient does not think she is pregnant.

Listened carefully, with Cammann's stethoscope, for sounds of fœtal heart, but could hear nothing.

Prof. T. G. Thomas saw the case at about this time, and, after making a most thorough examination, decided in favor of pregnancy, basing his opinion, *almost entirely*, upon the fact of being able to touch some solid body, evidently *in utero*, while making sudden and deep palpation of the abdominal tumor, and by being satisfied that he occasionally felt faint motion in the fœtus. Of other signs there were positively none.

During the months of March and April I saw the patient three or four times, but failed upon every occasion in my efforts to obtain some sign of fœtal life.

May 7th.—Three hundred and nine days from date of last menstruation, patient began to have labor-pains at 5 A. M.

At 8 A. M. made out breech presenting, female child, with head to mother's left.

Delivery accomplished, without any unusual occurrence, at half-past 2 P. M.; and the placenta, very large and apparently fatty, soon followed.

The child, as soon as delivered, made one or two spasmodic efforts at inflating the lungs, and, supposing the case to be one of partial asphyxia, I introduced into the mouth the index-finger of my left hand, for the purpose of removing any collection of blood or mucus that might possibly be obstructing respiration.

The finger passed for a short distance over what I took to be the dorsum of the tongue, and was suddenly arrested against the roof of the mouth.

Withdrawing the finger and reintroducing it, this time under the organ, I had no difficulty in carrying it back to the fauces and accomplishing my purpose.

However, the attempt at resuscitation failed, and the child was dead.

At a subsequent examination of the fœtus, in which I was assisted by my friend Dr. S. B. Ward, the following features presented themselves:

Weight, four and one-half pounds; body well formed, and apparently at term. Abdominal and thoracic viscera normal.

On looking at the mouth, with the jaws closed, the first object which meets the eye is what would seem to be the tip of a normal tongue, slightly protruding between the lips.

Fig. 1.

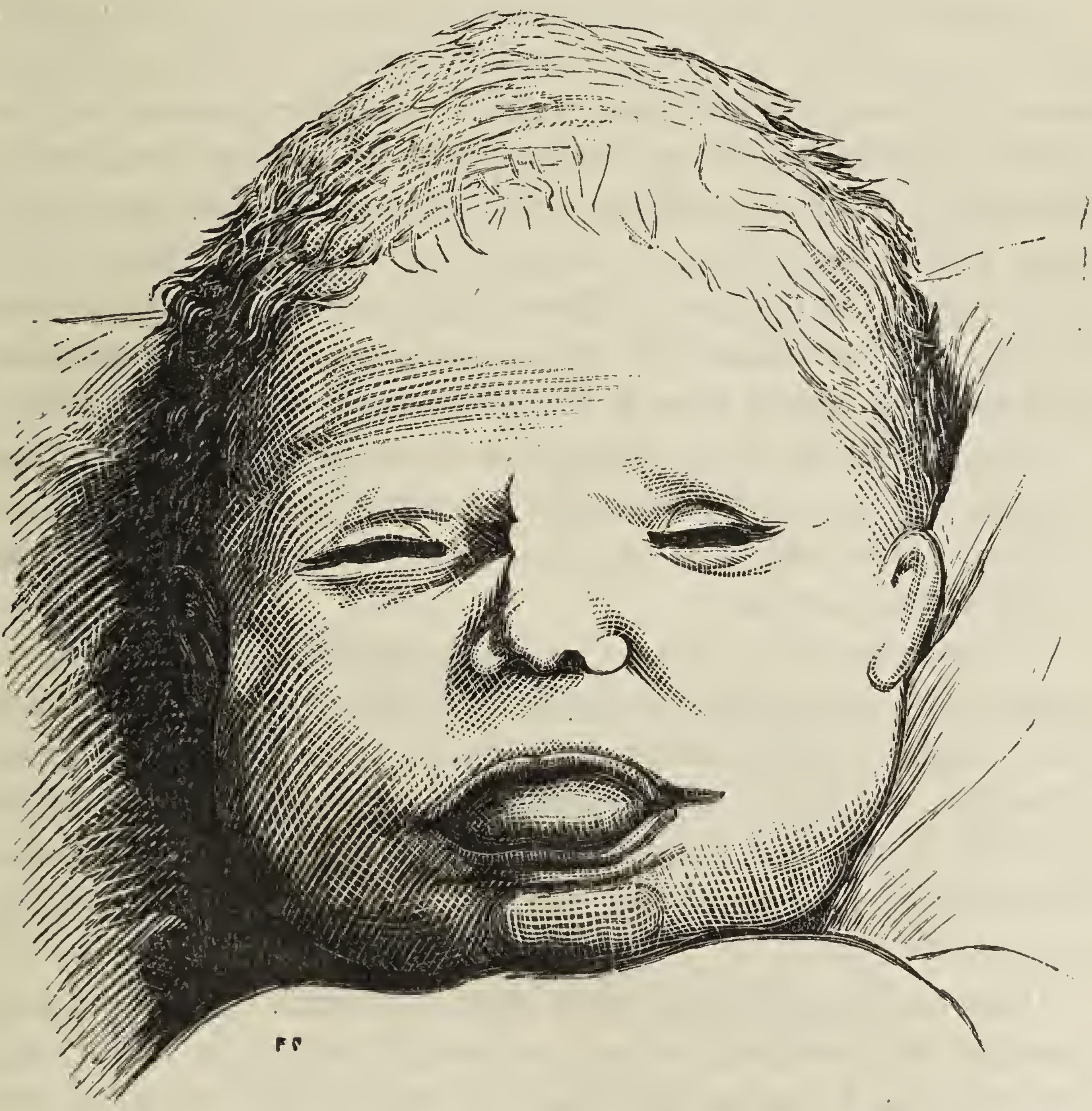

Fig. 1 is an exact representation of the face of the child in its natural state.

Upon separating the jaws, however, this mass proves to be a flattened ovoid body, the anterior extremity of which is free, while its posterior extremity is adherent to the roof of the mouth.

Viewed from its superior aspect, the growth has all the outward appearances of a portion of the normal tongue, both as to its size and outline, including the perfectly regular and rounded border of its free end.

The points of attachment to the roof of the mouth are as follows: On its upper surface, to the palatal processes of the superior maxillary bones, at a point about midway between the edge of the alveolar process in front, and the opening of the posterior nares behind; and from this point, to the tip of its free extremity, the mass measures three-fourths of an inch in length, by the same in width, and one-fourth of an inch in thickness.

Inferiorly the mass is continued backward from the point above named, as far as the basilar process of the occipital bone, at about its junction with the basilar process of the sphenoid, to which its posterior extremity is firmly adherent, measuring on this surface, antero-posteriorly, an inch and three-quarters, and in its passage along the roof of the mouth blocking up the opening of the posterior nares, so as to leave only a narrow lateral fissure on each side, through which a probe can be passed from the anterior nares into the pharynx.

Both surfaces of the mass, and especially its rounded free border, are supplied with quite an abundant growth of soft, downy, white hair, such as is frequently seen upon the cheeks of newly-born infants.

An inspection of the floor of the mouth reveals the presence of the true tongue, apparently occupying its normal position, and being peculiar only in the appearance of its free extremity, which has a somewhat irregular outline, with thinned edges; and at one point, near the centre of its tip, the presence of a small tubercle, as large as a millet-seed, is noticed.

Larynx, trachea, and œsophagus, normal. My first impression with regard to the specimen, based upon the strong resemblance between the mass occupying the roof of the mouth and the tip of a normal tongue, together with the appearance of the free extremity of the true tongue itself, was that, at some period of intra-uterine life, the tongue had been protruded and compressed between the jaws, until the organ had been divided; that the portion thus severed had then fallen back, and, by some means, attached itself to the roof of the mouth as already described.

The subsequent discovery, however, of the presence of hair upon the surface of the growth, and at the same time the discovery of a frenum to the true tongue, and that the little tubercle, before mentioned, and which I had hitherto regarded as only the remains of an exuberant granulation, was but a continuation of the frenum itself over on to the dorsum of the organ, led me very seriously to doubt the correctness of my earlier conclusion.

FIG. 2.

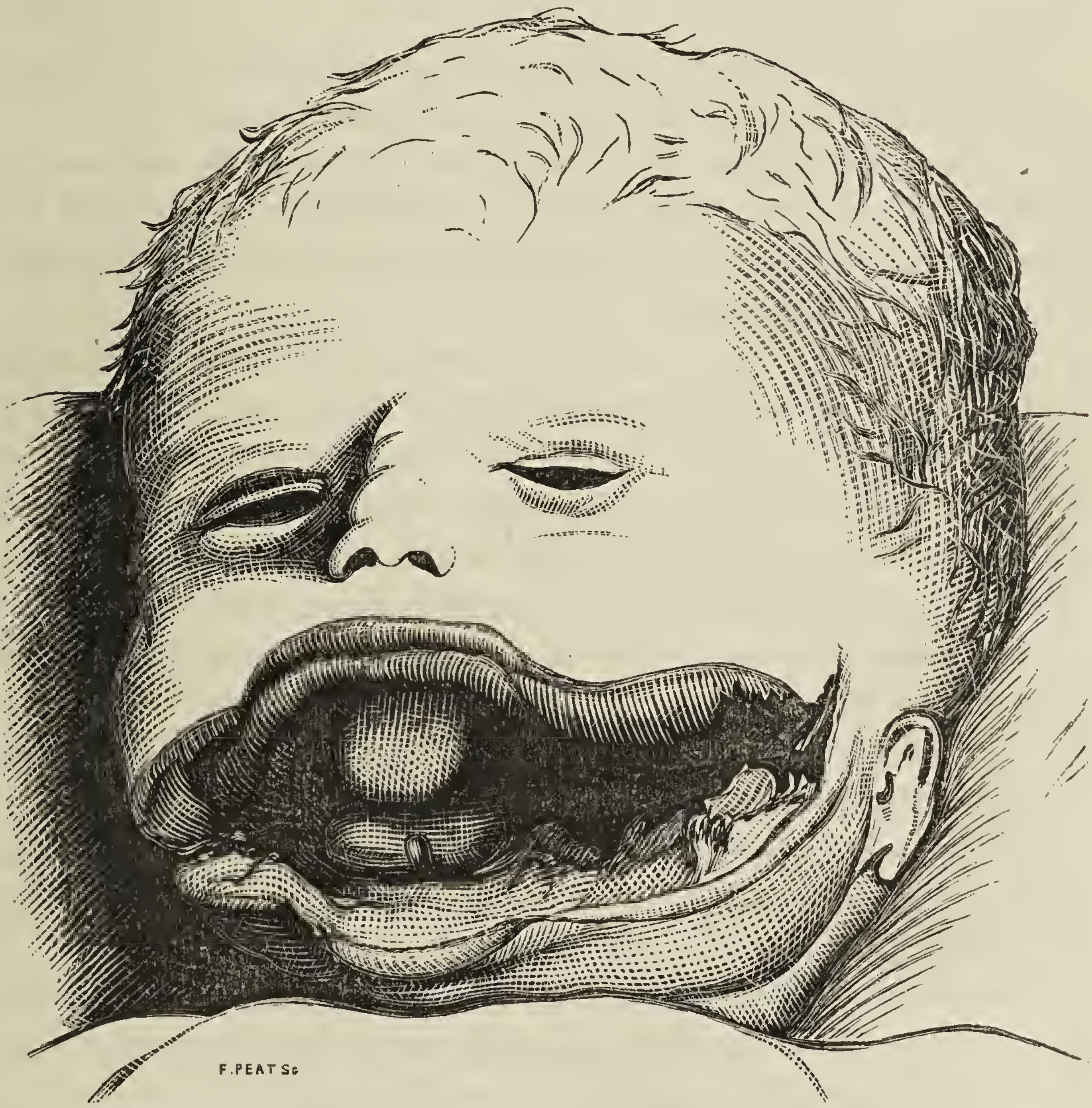

FIG. 2 represents the same, after cutting through the cheeks so as to separate the jaws and expose the interior of the mouth.

Dr. Jacobi, having heard of the specimen, expressed a desire to see it, and was kind enough to examine it with me.

After a careful investigation, that gentleman was inclined to regard the growth as possibly of the nature of a dermoid cyst, developed either from some portion of the base of the brain, or from the ethmoid bone, and escaping into the mouth at a period of intra-uterine life before a separation had taken place between the cavities of the mouth and nose.

To settle this point, the encephalon was hardened with absolute alcohol, reaching it by means of incisions made through the scalp, skull, and meninges, and, when hard, was carefully removed.

Nothing unusual being found in any part of the brain, a vertical incision was carefully made through the bones constituting the base of the skull, and the ethmoid, sphenoid, and basilar process of the occipital examined, with a like negative result.

The growth must, therefore, have originated at or very near the point at which it was found to be attached.

It was also found to be situated precisely in the median line, rendering the suggestion of its having descended between any portion of the hard palate and the alveolar arch exceedingly improbable.

Microscopical examination of sections of the mass showed it to consist of an external epithelial layer, containing hair-bulbs, with hairs growing out of them and projecting from the free surface; sebaceous glands; and unstriped muscular fibres. Deeper than this was found connective tissue and well-marked layers of striped muscular fibre, while the centre of the mass was composed of a considerable quantity of fat in well-marked vesicles.

No semblance of a cyst was found on careful examination either with the naked eye or the microscope.

Here, then, arose the same question which met us at the beginning; how came this unnatural growth to be occupying a position in the roof of the mouth?

As to the possibility of its being a portion of the true tongue, the following facts, favoring such an hypothesis, may be briefly stated in passing:

1. The close resemblance in size, shape, and general appearance, between the tumor and the anterior portion of a normal tongue.

2. The fact that the tumor is covered with a material occupying a position midway between skin and mucous membrane, which is also true of the tongue.

According to Gray,[1] "the tongue consists of structures analogous to those of the skin, namely, a cutis or corium, supporting numerous papillæ, and covered, as well as the papillæ, with epithelium."

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[1] "Anatomy, Descriptive and Surgical," edition of 1862, p. 609.

3. The presence of well-marked muscular fibres and a quantity of fat, both of which materials are normally found in this organ.

To quote again from Gray, as authority for this statement:[1] "The tongue consists of two symmetrical halves, separated from each other in the middle line, by a fibrous septum. Each half is composed of muscular fibres arranged in various directions, containing much interposed fat," etc., etc.

4. The somewhat shortened or atrophied appearance of the true tongue, as though a portion of its anterior extremity had been removed; and which, if granted, would naturally incline us to regard the tumor in the roof of the mouth as the missing portion.

On the other hand, as opposed to this theory, we have:

1. The presence of a large quantity of hair upon the surface of the tumor; an abundance of well-formed hair-follicles and sebaceous glands in the substance of its outer investment; all of which are materials entirely foreign to the ordinary structure of this organ.

2. The absence of papillæ, such as are found in the mucous membrane of the tongue.

3. The presence of a frenum to the true tongue, not only in full, normal proportion, but even somewhat in excess; both of which facts have already been mentioned in describing the outward appearances of the growth.

However, as an offset to the first objection, it has been shown that, while the growth of hair from mucous membranes is rare in the human subject, it has been observed by Henle on the labia minora;[2] and among the lower animals it is not so uncommon, being said to exist in the neighborhood of the pylorus, in the horse, in about one instance in twenty, and in rare cases to extend from this point nearly throughout the intestinal canal.

And in an article by Walter Hayle Walshe, in Todd's "Cyclopædia of Anatomy and Physiology,"[1] we have the following: "The adventitious production of hair is not so singularly rare, and, though no doubt much fantastic matter has been written on their places of attachment, the following localizations may be admitted as real: The tongue, the caruncula lachrymalis, the cornea, the internal surface of the gall-bladder, the nymphæ, the vagina (in connection with fat), tumors of the uterus, and of the fauces."

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[1] Page 610.

[2] "Kölliker," p. 172, American translation, 1854.

And in a note at the bottom of the same page, referring to the tongue:

"This has been denied hypothetically; yet nothing is less improbable than the occasional growth of obvious hairs from this organ, seeing that some of the epithelial processes of the conical papillæ actually inclose minute hairs in the natural state."

As no soft palate or uvula is to be found in its normal location, it has been suggested that this mass may possibly represent those structures displaced and hypertrophied. Upon the whole, however, I am inclined to class this growth with that of a similar congenital tumor of the roof of the mouth (only much larger than this one), extending up into the cavity of the skull, reported by J. Arnold, of Heidelberg, in Virchow's "Archiv" (vol. l., 1870, p. 482), under the heading of "Congenital Composite Lipoma of the Tongue and Pharynx, with Perforation of the Cavity of the Skull." In that case, as in the one under consideration, the tumor was hairy, and with this difference only, that in the former case the hairs were grouped together in tufts, while in the latter they are distributed pretty evenly over the surfaces.

To quote from Dr. Arnold's article, he says, in speaking of his own case:

"It is to be described as a lipoma, containing little masses of cartilage and convolutions of capillary vessels, covered by a dermoid layer, which tumor in its development separated the fibres of the muscles of the tongue, and, by displacement of the ducts of the sublingual gland, led to the formation of the cavities, tubuli, and sacs, which filled the substance of the gland.

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[1] Vol. iv., part i., p. 142.

"The literature of lipoma of the tongue is not very rich. They are either acquired, and in this case simple (Laroyenne, *Gazette Médicale de Lyon*, 1866) or congenital, and then, for the most part, composite.

"To this category belongs the case which Bastien ("Bull. de la Soc. Anat. de Paris," November, 1854) relates. The patient carried from his earliest infancy a tumor on the right side of his tongue, which at his twenty-first year had reached the size of a pigeon's egg, then remained stationary, and contained, besides adipose tissue, cartilaginous and bony masses.

"Lambl ("Beob. u. Studien aus dem Franz-Joseph-Kinder-Spitale., S. 181) describes the case of a child in whom a tumor was found in the cavity of the mouth, the anterior, rounded end of which reached as far forward as the point of the tongue, while the posterior cylindrical end was concealed behind the soft palate, so that it could not be accurately made out. The microscopical examination of the tumor, which separated spontaneously, showed on the surface a complete dermoidal covering, with hair and sebaceous follicles, while the mass of it was composed of adipose and cellular tissue and vessels.

"The cases of Wallmann ("Verh. d. phys. med. Gesellsch., Würzburg," Bd. IX., S. 168), Hess ("Beitr. zur casuist. der Geschw., Giessen., Inaugural-Diss.," 1854), and others, on account of the difference in structure and situation of the tumors, do not belong to the category of lipomata of the tongue, although in their behavior in other respects they have many points of resemblance to our case.

"This latter, if we compare it with the cases of Bastien and Lambl, is so peculiar, that we are justified in styling it unique."

II.—*Report of a Case of Inversio-Uteri of Two Years' Standing, induced by Taxis; with Remarks.*[1] By B. F. Dawson, M. D., Attending Physician to the New York State Woman's Hospital, Out-door Department, etc.

On the 6th of January last, Mrs. R. was sent to me by Dr. Jeffrey Bourke, of this city, with the view of confirming his diagnosis of her case, and for advice as to her treatment. The patient was a naturally strong woman, aged thirty-eight years, and the mother of five children. Her illness dated from the birth of her last child, two years ago, of which the following is the account, as given by herself and husband :

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[1] Read before the New York Obstetrical Society, March 23, 1875.

On February 5, 1873 (two years ago), she was taken in labor with her fifth child, which was born in four hours without assistance or trouble. In delivering the after-birth, however, her physician caused her considerable pain by pulling upon the cord, of which she complained, and when he persisted she cried out to him repeatedly to stop ; at the same time she was losing blood freely. She soon lost consciousness, and her husband and family thought her to be dying. For several days after she was so prostrated that she was not expected to recover, even by her physicians. She continued to lose blood freely, and a large mass or tumor protruded from the vulva, requiring repeated efforts at reduction. Her water, also, had to be drawn off for a couple of weeks. In about three weeks after the birth of her child she began to improve, losing less blood, and having less pain. In the mean time she had used vaginal washes and injections ordered by her physicians, and which seemed to control the bleeding considerably. Thus matters remained for about a year, with, however, a yellowish discharge throughout, and occasionally clots of blood. The protruding tumor also gave her considerable trouble, coming down repeatedly on the slightest effort, and requiring her to lie down and have it replaced by her husband. In February, 1874, a year after the birth of her child, the hæmorrhage returned with great severity, and continued without abatement until April, when it intermitted for a few days ; again recurring, however, profusely for several weeks. The patient in consequence became rapidly exhausted to such a degree as to be unable to raise her head off her pillow. Her physicians again attempted to control the hæmorrhage by injections and tamponing the vagina with cloths, but to no avail. Her condition continued thus until last November (1874), when she was seen by Dr. Jeoffrey Bourke, of this city. After an examination of her, he expressed to her physicians his opinion that she was undoubtedly suffering from inversion ; and again in December he adhered to the same opinion, and advised a consultation with others for treatment. With this object he consulted me about her, and at my suggestion and advice she came to this city. From the time we saw her in November to the date of my first visit she continued to lose blood, but had gained somewhat in strength. As already stated, she was seen by me January 6, 1875, and on careful examination I found her to be suffering from complete inversio-uteri. The uterus occupied the entire vagina, was firm to the touch, bled readily, and was exceedingly sensitive. The ring formed by the vaginal portion of the cervix was thin, and did not constrict the tumor to any great degree. In all respects the case seemed one not likely to afford great trouble at reduction, and accordingly I felt safe in expressing my opinion to the patient and her husband that she could be cured if she would submit to treatment. The diagnosis and above opinions were concurred in by my friend Dr. Munde, who saw her at the same time with me. After some persuasion she consented to place herself under my treatment, notwithstanding her friends urged her strongly not to risk her life by an operation. The following day, at my request, my friend Prof. T. G. Thomas examined the case, and expressed the opinion that it was a case favorable to success in all respects, notwithstanding the existence of the inversion for so long a time as two years.

On January 13th, the patient being etherized, and having used hot vaginal injections for the previous week, I made my attempt. My efforts I had determined to confine wholly to taxis, one hand in the vagina embracing the tumor within the fingers, and thus forcing them up within the ring, dilating the latter and carrying the *cervix uteri* up, at the same time making counter-pressure through the abdominal walls, as a centre to press against as well as to guard against rupture of the vagina. In these efforts I was relieved when tired by Drs. Bourke and Henry Nicoll. After two and a half hours no success of any amount attended our efforts, and accordingly the patient was replaced in bed, it being decided best not to subject her too long to the influence of anæsthesia, or the uterus to prolonged manipulation.

On January 16th, three days after, I prepared for a second attempt, but, after manipulating for two hours, the uterus became œdematous, and, with the concurrence of Drs. Nicoll and J. C. Jay, Jr., it was deemed best to desist, and give the patient a few days' rest, and subject the parts to the influence of a constant use of hot vaginal douches. After both these attempts there was a slight elevation of temperature, some pain, very slight discharge, and no vomiting. By the use of quinine and morphia the fever and pain were controlled, and nourishing diet kept up the patient's strength.

On January 18th I essayed a third attempt, but soon found it would be to my advantage, as well as the patient's, to subject the uterus still longer to the action of hot water, as it was still coriaceous and doughy in feeling. A full week was given the patient, and on January 25th efforts were again renewed, in like manner as before, excepting that I essayed the use of Prof. White's inversion repositor, but laid it aside for reasons to be hereafter stated. From the outset it seemed that success would crown our efforts at last, as the ring was largely dilated and dilatable, the uterus soft and pliable, and the fundus, after a slight effort, could be carried up to the ring. Through the abdominal walls the enlarged ring was easily felt, and the finger could be forced into the depression of the inversion. Alternately relieving one another, after one hour and twenty minutes, the fundus was well up within the ring. I was on the point of again resting, when suddenly the left horn of the uterus yielded to the pressure of the thumb of my right hand. Following up this ground gained, I succeeded, in a few minutes, in completely replacing the inversion, and felt the uterus contract considerably upon my finger in its cavity. The patient being then examined by Drs. Nicoll and Bourke at my request, she was replaced in bed, hot cloths were applied over the abdomen, and, after her recovery out of the anæsthetic, quinine and morphia controlled the fever and pain. The patient made a quick recovery, returning home six days after the reduction, and, from a letter received on the 22d of February, was improving in general health rapidly.

In the early history and general treatment of this case, there are many points which strike me as worthy of a few moments' consideration. In the first place, it is almost conclusive, from the pain and hæmorrhage, that the inversion was produced by traction exerted upon the umbilical cord and placenta, when the uterus had not, and was not contracting, as it should have done after the expulsion of the child. Had the uterus thus contracted, prolonged and firm traction on the cord could not have been made, for that proper behavior of the uterus necessarily casts off the placenta. Her attendant, therefore, should have recognized, from this very retention of the placenta, that the uterus did not contract sufficiently to cast it off, and, in place of giving his attention to the placenta, he should have given it to the uterus. If the invaluable practice of having the uterus followed up by the hand had been resorted to, which was evidently not the case, it would either have stimulated the uterus to do its duty, or have shown, by its not contracting, the necessity of making it do so for no other reason than doing what misdirected efforts endeavored to accomplish. Again, had her attendant followed up the uterus during the delivery of the placenta, in the manner mentioned, he could not have failed to recognize that the organ was not contracting, but becoming inverted, and he thus would have been made aware of the danger of his procedure. Further, the character and continuance of the flooding should have told him at once that he had a non-contracted uterus; and had he then used his most ready means of ascertaining the cause of the hæmorrhage—the use of his two hands externally and internally—he would have recognized, from the absence of a uterus beneath his hand on the abdomen, and the tumor in the vagina, that the uterus was inverted. The non-observance of the ordinary precautions in a simple case of labor was undoubtedly, in this case, the cause of this patient's life being endangered by hæmorrhage, and of her suffering, during two years, from an inverted uterus.

In regard to the treatment, and its results, there are several points that seem to me to admit of a few moments' consideration. The old method of taxis certainly in this case succeeded admirably, the constricted cervix yielding gradually to the wedging effect of the fingers and the pressure of the body of the uterus. That the fingers possess a very limited power of expansion when confined thus in the vagina, I admit; but, in my opinion, this is compensated for, in a great degree, by the wedging of the uterine body between the fingers, by the upward force exerted on the palm of the hand by the arm-power of the operator. It is by this force, in my opinion, that the constricting cervical ring can be dilated sufficiently to admit of reduction of the uterine neck, and, in the case reported, I am confident that the ring was thus only dilated; as already stated, the dilating force of my fingers, *per se*, being exceedingly limited. Another point, of which slight mention is made in our leading text-books, but which in my hands worked admirably, and to which I attribute chiefly my success, is the constant use of the hot vaginal douche, preceding and succeeding each effort at reduction. The advantage of thus using hot water is self-evident, it acting in the same manner as when used in cases of rigid os, by relaxing and softening the muscular fibres of the cervix. But it was especially after our efforts at reduction that it seemed to accomplish the most good, both in removing the consequent tumefaction of the uterine body, following the severe and protracted handling, as well as subduing irritation of the organ and its appendages, and thus diminishing the dangers of inflammation. Certainly, from what I saw of its effects in Mrs. R.'s case, it appears to me to afford aid of the greatest value in cases of inversion.

In conclusion, I desire to state that I essayed Courty's method of gaining a point of resistance by introducing the index and middle fingers up the rectum, but found that in such a cramped position no resistance of value could be obtained. I also gave the instrument known as White's respirator a trial, but laid it aside in a few moments, as I found it impossible to exert the pressure in the line of the uterine axis, the instrument carrying the uteri toward the promontory of the sacrum. In justice to Prof. White, I must state here that this was owing to a faulty construction of the instrument, its shaft being too straight, and its rubber cups too yielding.

Finally, I desire to express my indebtedness for invaluable assistance to my friends Drs. H. D. Nicoll, J. C. Jay, Jr., and Jeoffrey Bourke, to them certainly belongs a large share of the success attending my efforts.

Notes of Hospital Practice.

BELLEVUE HOSPITAL, NEW YORK.

Embolism of Pulmonary Artery.—The patient suffered from mitral stenosis with dilatation, but was progressing very well, when suddenly she was attacked with fainting in the afternoon; from this she rallied. Seven hours afterward it returned, complicated with slight cyanosis. Two hours later the patient died. Nitrite of amyl was tried ineffectually to rouse her. At the autopsy it was found that the pulmonary artery of the right lung was completely blocked up, and the left one nearly so, by a thrombus extending upward from the bifurcation.

Plaster-of-Paris Splint for Caries of Spine.—The splint referred to in the December number of this Journal, page 627, proves of great value in those cases of disease of the spine situated in the lower dorsal and lumbar region. It can be made lighter than mentioned previously, by covering the skin with a tight-fitting under-shirt, and then carrying the roll of plaster-bandage around the body, from the axilla to the pelvis. Strips of perforated zinc are introduced between the layers of the roller, to give additional solidity to the apparatus.

MOUNT SINAI HOSPITAL, NEW YORK.

Anti-Pyretic Treatment of Acute Rheumatism.—This hospital has adopted the treatment of acute rheumatism by the use of cold externally applied. The method consists in the use of cold baths, combined with ice-bags, to the inflamed joints. Every patient does not bear well the cold baths, but the ice-bags always prove grateful and always remove the pain. The very curious point has been noticed, that, if blankets are placed over the patient, or in any way the patient be allowed to sweat, the cold loses its efficacy. It is found also that, if the ice-bags are removed from the inflamed joints, the pain sometimes reappears, and, when it does, a return to the ice-bags again relieves the patient.

CHARITY HOSPITAL, NEW YORK.

Venereal Division: Phagedenic Chancroid.—The patient came into hospital, suffering from a sloughing chancroid. It began as a soft chancre on the prepuce. After taking on a phagedenic character it involved and destroyed the penis, and then extended down and spread over the thigh. All treatment proved useless to stop its progress, the actual cautery proving absolutely of no avail. After a lengthened stay in the hospital, the patient left, the disease showing no signs of healing.

Iodine as a Substitute for Iodide of Potassium.—It is found that in some cases, where iodide of potassium is not tolerated by the stomach, iodine itself can be administered in the form of pills.

The iodine is first suspended in albumen, and afterward the combination is dried and powdered. In this way one-quarter-grain of iodine can be made into a pill, and two and a half grains can be given daily, without disordering the stomach. This method was obtained from Paris, and proves of much service in relieving tertiary symptoms.

EMIGRANT HOSPITAL, WARD'S ISLAND.

Solution of Iodoform.—Dr. N. G. McMaster has introduced at this hospital the ethereal solution of iodoform in the treatment of some venereal diseases. The solution is made by adding ʒss of iodoform to ℥j of ether, and has the advantage of being more thoroughly applied to the tissues, as upon the evaporation of the ether the iodoform is left in a very minute state of distribution. This solution has proved specially serviceable in the treatment of balanitis. The method of applying is to paint it over the inflamed gland with a camel's-hair pencil, and by repeated applications of the solution any quantity of the iodoform may be deposited.

Dressing Chancroids around the Corona Glandis.—An exceedingly happy device for the treatment of chancroids around the base of the glands consists in the application of a collar of cotton-wool, so applied as to remain in position after the prepuce is drawn forward. A small piece of cotton-wool, the size of the little-finger, is placed around the neck and its ends twisted by the finger, so as to retain it firmly in position. The advantage of this will be obvious to those who have tried and failed to keep a dressing in position when drawing the prepuce over the head of the penis.

NEW YORK EYE AND EAR INFIRMARY.

Traumatic Cataract, with Secondary Choroiditis of the other Eye.—A German woman, aged fifty, presented herself at the infirmary, suffering with cataract of one eye and choroiditis of the other, and gave the following history: Six years ago was struck in the right eye by a tenpenny nail. Since that time her sight has been growing worse in that eye, and at present she is totally blind. When the eye was examined, the anterior chamber was found to contain pus and crystals of cholesterine. The effect of the crystals on the iris was to give it the appearance of quartz. There was also cataract. Lately, the right eye has caused the patient much pain. The patient has recently found that the healthy eye is losing its vision. When the left eye is examined by the ophthalmoscope, haziness of the vitreous, with some slight choroidal changes, is found. The vision is only $\frac{20}{70}$, or $\frac{2}{7}$ of normal. The right eye was removed, to relieve the irritation in the left.

The above case is interesting in proving that an injured eye may apparently cease to trouble the patient for a number of years, but eventually compromise the healthy eye by symptomatic inflammation.

Laceration of the Sclera in the Ciliary Region, with Prolapse of the Iris.—The patient, while attempting to get on a car, January 8th, was struck in the right eye by the shaft of a passing wagon, producing the above injury. When examined by the ophthalmoscope it is impossible to see the fundus, from the opacity of the vitreous. The patient sees the hand, however, at two feet. A close examination of the anterior part of the eye, when the patient is looking down, shows a large staphyloma in the ciliary region attached to the prolapsed iris. The iris has the appearance of having suffered an iridectomy.

Proceedings of Societies.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 4, 1875.

Dr. S. S. Purple, President.

Dr. Anderson, in behalf of the Committee of Ways and Means, said that the purchase of the house No. 12 West Thirty-first Street had been closed, and $32,500 paid over. With three exceptions, all of this money came from members of the Academy. He read a letter from Mrs. Hartlett, inclosing a check for $250. Mrs. Hartlett said that she made this donation in memory of her father, Dr. S. Pomeroy White, an early member of the Academy.

On the Merits, Real and Comparative, of Amputations in the Lower Third of the Leg, with Suggestions as to the Prospective Value of Periosteal Flaps.—Dr. Stephen Smith read the paper of the evening on the above subject, of which the following is a brief synopsis:

Ambrose Paré, three hundred years ago, related a case of a man who had his foot shot off, and, after it had healed, had the leg amputated five finger-breadths below the knee, on account of the burden it proved to be in walking.

Paré, in commenting on this subject, says: "We must do otherwise if any such thing happens in the arm;"—and thus shows how accurately he appreciated a most important principle in modern surgery, which is as follows: *The special function of the limb should be considered, and as far as possible preserved in selecting the point and method of operation.* Unfortunately, however, if a score of limbs are examined, few, if any, will show that the surgeon was governed in the point of election of his amputation by the special functions of the limb, and the facility of adapting to it artificial appliances. It is most important to the patient that this be well considered, as it may determine whether he is to be a pauper for the rest of his days, or a self-supporting citizen. And this may best be arranged by a consultation of the operating and mechanical surgeons. In no amputations is the experience of the mechanical surgeon of so much importance as in those involving the lower extremities.

There has been much difference of opinion in regard to the relative advantages of amputation of the leg below the knee, and at the lower third, in regard to its usefulness to the patient for the adaptation of an artificial limb. When patients were only able to obtain the wooden "pin and bucket," it was an advantage to have a short stump; but with the improvement in artificial appliances, it was found that a leg which had been amputated at its lower third could have applied to it an apparatus which would enable the patient to walk with great facility. The first surgeon who advised the amputation at the lower third of the leg was Solingen, a Dutch surgeon, who wrote in 1684. His reason for this innovation was, that when a wooden foot was applied, and fastened to the stump by thin polished steel plates, the patient could walk as well as with the natural foot. This method did not come into general use; and, half a century later, it was agitated again in England and in France by different surgeons.

During the early part of the present century surgical opinion fluctuated as to the advantage of this operation, a majority declaring in favor of the high point of amputation, or poor man's leg, when the patient was a laborer or an artisan. About the year 1831, Keate, of London, and Velpeau of Paris, advocated the amputation at the lower third of the leg, and in 1841, after an exhaustive consideration of the subject, Arnal and Martin laid down the following propositions: 1. It may be performed with more promptitude and facility than the ordinary operation. 2. It causes less pain. 3. It is less frequently accompanied by gangrene of the flap, so common in the ordinary method. 4. It exposes to less risk of secondary hæmorrhage. 5. The traumatic fever which it causes is milder and less violent. 6. The cicatrization is more rapid. 7. In consequence of the rapid cure of the wound made by the amputation, it is less liable to be attacked by hospital gangrene. 8. The accident of conicity of the stump follows it less frequently. 9. The patients are less frequently attacked with purulent absorption. 10. The patient can make more free use of his limb.

These writers reported ninety-seven cases of supra-malleolar amputation of different ages, and eighty-seven were cured. Velpeau reported that all of his cases were able to use their limbs wonderfully well; and one of his lady patients danced so well that it was impossible to tell that there was an imperfection of her extremity. The operation was revived in England in 1844, but met with considerable opposition; but it received, subsequently, much advantage from Mr. Teale, of Leeds, by his operation. The peculiarity of his stump consisted in having the cicatrix placed posteriorly, and the bone covered with a soft mass of tissues devoid of large nerves. In our own day the principles which should govern surgeons in the election of the site and method of amputation of the leg are vague and not defined; and the results by no means sustain Paré's proposition in regard to the special function of the limb. One of the chief reasons for the diversity of surgical opinion in regard to amputations is, that not enough attention is given to the consideration of the mechanical aids which can be adapted to substitute the natural extremity; whereas, at the present time, artificial limbs have reached to such a point of perfection, that in the lower extremities they may be said to completely restore function and symmetry when the stumps admit of their proper application; and, moreover, they are sufficiently cheap to be within the unaided or aided means of all. As regards amputation of the leg, the two governing rules are: 1. Safety to the life of the patient; 2. Serviceableness of the stump. As regards the first, the chances for the life of the patient are doubled by the low operation; and, as regards the second, it depends on the point and method of the amputation.

To render a stump useful, it is necessary that it be absolutely free from tenderness, and the principal cause of tenderness is a thin, imperfect cicatrix attached to the bone. It is usually the result of sloughing, imperfect, or retracted flaps, which in themselves are produced by an operation yielding too thin coverings to the bone.

Tenderness may best be avoided by having the cicatrix situated anteriorly or posteriorly to the end of the stump, and the bone covered by a thick, fleshy mass, as practised by Teale, of Leeds, or Lee, of London.

An important question arises here as to whether it is necessary for patients to bear their weight on the end of the stump, and the expert mechanicians answer, "Yes." Dr. Hudson, of this city, one of the best students of the mechanism of artificial appliances in this country, gives it as his opinion that a stump that will take the weight of the body is useful, whatever the method of support may be. And, if this is so, an important question that arises is, what part the periosteum may perform in this respect, when it is employed in covering the end of the bone. Since 1814 periosteal flaps have at different times been suggested, and, during the winter of 1862–'63, Assistant-Surgeon G. M. McGill, U. S. A., practised the use of these flaps to nourish the bone. His method was, to raise a section of the periosteum from the anterior surface of the bone sufficient in area to cover the cut extremity of the bone. The stumps are described as being well rounded, and capable of bearing pressure. The advantages which have been attributed to this method are: 1. That the cicatrix does not become attached to the bone. 2. That osteo-myelitis is prevented. 3. That the stump presents a rounded form and is firm.

The disadvantages are: 1. That the periosteum being poorly nourished, is liable to slough. 2. If it does become attached, osteophytes may develop, which will destroy the stump.

Dr. Smith presented a patient upon whom he had operated by means of the periosteal flap. The history was, that ten weeks ago the foot was removed above the malleoli, and at the end of the fifth week the cicatrization was complete. The method of operation was, to make a long anterior and rectangular flap, then remove that portion of the fibula which was uncovered by the flap. The similar part of the tibia was then enucleated from its periosteum and removed. The appearance of the stump at this stage of the operation was much the same as the ordinary flap of Teale's amputation, with the exception that it had attached to it, for its whole length, the periosteum of the section of the tibia. The flap was now brought around in the ordinary manner, so as to bring this periosteum in contact with the cut extremity of the bone. When the stump of the patient was examined, after the reading of the paper, it was found to be well rounded and firm, and destitute of tenderness. On one face of the stump there was a slight depression, the result of a slough.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 24, 1875.

Dr. Francis Delafield, President, in the chair.

Lumbo-Colotomy—Stricture of Colon.—Dr. R. F. Weir presented to the Society the following history of lumbo-colotomy with stricture of colon. The patient was a woman, aged fifty. She had complained of colicky pains, with constipation, and when her bowels did move she had clay-colored stools. On January 3d had a severe attack of colic, accompanied by vomiting.

The colon over the umbilical region was dull and distended. Copious enemata were administered, together with morphia, and shortly after the patient was relieved. Another attack developed on February 10th, but was not so amenable to treatment. No fecal matter was brought away by the enemata. A metal bougie was then introduced, but did not pass farther than the sigmoid flexure. After a consultation it was decided to introduce the hand into the rectum and make an exploration after Simon's method. No difficulty was experienced in passing the hand within the anus or along the rectum to the sigmoid flexure. When it reached this latter point, the tips of the fingers touched the right kidney. No sign of stricture was observable, and the hand was withdrawn. After this exploration the patient became very faint, but afterward rallied. It was then decided that the only chance for the patient lay in the operation of lumbo-colotomy. The operation was done in the usual manner, and from the opening in the colon there escaped a large amount of fæces and serum. After the operation the patient rallied very well, and hopes of her recovery were entertained, but she sank soon afterward, and died the next morning.

Autopsy.—A stricture was found situated about the middle of the transverse colon, and, beyond it, fluid fæces. The gall-bladder contained a calculus, which occluded its outlet. No laceration of the anus was detected, but an ecchymosis extending as high up as the beginning of the sigmoid flexure was found. The peritonæum of the reflection from the uterus to the anterior part of the rectum was slightly torn. In reference to the introduction of the hand, Dr. MASON said that, if the obstruction was of long standing, the introduction of the hand would be very likely to cause serious injury.

Urethral Calculus removed by Thompson's Divulsor.—Dr. KEYES presented an oxalate-of-lime calculus which he had removed from the urethra of a patient under the following circumstances: The patient was a country physician, who previously had two attacks of renal calculus, but had never passed any stone by the urethra. One day last June the patient found that he could not pass any water, and called to his assistance a neighboring physician. The physician failed to pass a catheter into the bladder, but on withdrawing the instrument from the urethra it was followed by a gush of urine. The patient was next seen by Dr. Maxwell of this city, who was able to pass a catheter into the bladder, and in doing so detected a calculus. Some time after this, Dr. Keyes saw the patient, and, in passing an instrument, found resistance at the bulbous part of the urethra, but failed to get any gritty substance. There was an obstruction at the triangular ligament, but it did not seem to be produced by any calcareous substance. The patient was given quinine, and baths at the same time were ordered. Two days later the patient was seen again, and a whalebone guide passed into the bladder. Sir Henry Thompson's divulsor was then carried down on this guide into the bladder, and dilated as in the operation for divulsion, and when the blades were separated the stone slipped in between them and was in this way withdrawn. One week later, a full-sized sound was passed into the bladder, and its withdrawal was followed by a slight hæmorrhage. Dr. Keyes explained the marked advantage of the divulsor over the ordinary urethral forceps in the extraction of stones from the urethra. This calculus weighed about eight grains, and was smooth.

Large Child.—Dr. BLAKE detailed the history and measurement of an exceedingly large child, which he wished to put on record. The child was the first the mother had borne, and was in every respect similar to a child three or four months old, The measurements were taken forty-eight hours after the mother was delivered, and were as follows:

Head.—Occipito-mental, 6½ inches; frontal, 6 inches; perpendicular, 5 inches; transverse, 4½ inches; temporal, 3½ inches. *Body.*—Circumference of thigh, 7 inches; circumference of calf, 4¾ inches; measurement of chest under axilla, 13½ inches; circumference of arm, 4½ inches; of forearm, about the middle, 4⅞ inches; length of child, 23½ inches. Dr. Blake said the largest child, so far recorded, measured only 21 inches. Dr. Mary Putnam Jacobi had found, in two or three cases of indolent mothers which came under observation, that first children were always larger than subsequent ones, and in this way many of the still-births were accounted for. Dr. Blake said that his patient was one of the latter class.

Catarrhal Pneumonia.—Dr. Heitzman presented the heart and lungs of a child which was under the care of Dr. J. Lewis Smith. The lungs showed evidences of catarrhal pneumonia with cheesy degeneration. He presented the specimens, stained with nitrate of silver and extract of logwood. The President had found changes similar to those presented in chronic pleurisy, and in his experience arsenic acid and carmine had proved more serviceable than nitrate of silver and logwood.

Transverse Fracture of Patella; Death.—Dr. Erskine Mason presented to the Society two specimens of a fractured patella removed from a case in Bellevue Hospital under the following circumstances: The man was aged twenty-five, and entered the hospital suffering from a fracture of the patella, which he had received December 23, 1873. He was treated by means of the plaster-of-Paris bandage, and discharged from the institution in the following April, the knee then being in a state of partial anchylosis. The patient again entered the hospital January 2, 1875, suffering from injury to the same patella, caused by muscular contraction, the result of slipping on the ice. When he entered the hospital the tissues over the centre of the patella were found lacerated. This wound was ten inches long, and communicated with the joint. The ligamentous band between the portions of the patella was torn. A long posterior splint was applied, and dressings of carbolized oil ordered. On January 8th the wound looked unhealthy and discharged profusely. January 15th, counter-openings were made on each side of the joint, and setons introduced. January 23d; after consultation, it was decided to amputate the limb. January 25th, amputation performed at the junction of the middle and lower thirds of the thigh by means of the anterior and posterior flaps. An effort was made to have the patient isolated from all causes of pyæmia, but on the fourth day, when the wound was healing by first intention, he took a chill. On the next day, although the wound looked healthy, it was opened, for fear of pus forming below the flaps. The patient continued to have chills at irregular intervals, and constantly grew weaker until he died, on February 8th, the tenth day after the first chill, and the fourteenth after the operation. An interesting feature of the case was, that the fracture of the patella took place from muscular violence, and the last injury arose from the same cause.

Pott's Disease, Peritonitis.—The President presented the following case: A man, aged fifty-six, entered Bellevue Hospital, giving in history that, three months before, he fell and struck his back. Three weeks later he began to lose the power of both legs and shortly became paraplegic. On admission there was perfect loss of motion, but not of sensation, in both legs. There was also protrusion of the seventh dorsal vertebra. Three days subsequently the patient vomited, but there was no rise of temperature. There was also tympanites. These symptoms continued, and the patient sank and died.

Autopsy.—The seventh dorsal vertebra was completely destroyed, and consisted of a soft, cheesy mass. The spinal cord was pressed on by the vertebral column. Evidences of recent peritonitis were observable, the spleen being coated by a layer of fibrine. The colon above the sigmoid flexure was partially obstructed by old adhesions. The rectum between the peritoneal and mucous coats contained pus. The history did not point to purulent inflammation of the rectum, and was interesting from the fact that this infiltration of pus was in no way connected with disease of the rectum. There was no softening of the cord apparent to the naked eye.

Stated Meeting, March 10, 1875.

DR. FRANCIS DELAFIELD, President.

Report of Microscopical Committee.—Dr. T. E. SATTERTHWAITE presented a report from the Microscopical Committee in regard to the nature of the tumor of the œsophagus presented by Dr. ERSKINE MASON on February 10th. The tumor was found to consist of a mass of fungous growths of a lobulated character, and projecting above the surface of the mucous membrane to the extent of three-fourths of an inch. Under the microscope it was found to be composed of cells of an epithelial character, containing nuclei, or, in other words, the growth was carcinomatous.

Morbus Coxæ; First Stage.—Dr. E. P. GIBNEY presented a specimen of much interest, showing the condition of the joint in the first stage of morbus coxæ.

The history of the case was that the patient, a boy, while riding on a velocipede, fell and sustained an injury which gave rise to disease of the hip-joint. All of the symptoms, such as flattening of the hip and change in the symmetry of the buccal folds, were present, but there was no anchylosis, and no shortening. In six months he recovered, but continued to remain in the Hospital for the Ruptured and Crippled, where he had been since the disease developed, till his death, a period of about four years, and thus fortunately the specimen was secured. During October, 1874, it was noticed that the cervical glands were begining to enlarge, and by January he became so debilitated that he was unable to leave his bed. He now developed a dry cough, with jaundice, and eventually died by asthenia. At the autopsy it was found that there were no signs of disease in the lungs to account for the cough, but an enlarged cervical gland was found to have pressed on the pneumogastric nerve, and thus, by its irritation, caused the cough. The capsular ligament was found to be perfect. The head of the bone was flattened, and its cartilage was of a dirty-white color; on it there were two or three yellow spots. The cartilage itself was about half the thickness of that of the other femur. Around the base of the head, where the capsule is attached, there were also signs of disease. The specimen was shown in section, and the head of the femur of the other extremity was also shown, proving by contrast the exact amount of disease.

Intestinal Obstruction by Old Adhesions.—Dr. DRAKE presented a case of intestinal obstruction, with the following history: The patient was aged twenty-one, and had been always temperate. The illness that caused his death dated from one day on which he took a very hearty dinner. During that evening he began to vomit, and he continued vomiting during the next day. He complained of no severe pain or local tenderness, but of a feeling of soreness of the abdominal muscles. Opiates were administered, and warm applications placed over the abdomen. There was no evacuation from the bowels. On the third day, pain appeared in the umbilical region, accompanied by vomiting, and the diagnosis made at that time was of local peritonitis. On the sixth day the patient died.

Autopsy.—The intestines were found distended with gas. The large intestine was empty. The ileum was empty, and the jejunum filled with gas and fæces. At its lower part it was bound down by old adhesions, and above the adhesions it was dilated.

Perforation of the Gall-Bladder.—Dr. T. E. SATTERTHWAITE presented three biliary calculi, removed from a patient who died with perforation of the gall-bladder. The patient had complained, during 1872, of pain in the region of the liver, and the diagnosis made at that time was either hepatic abscess, or cancer of the liver. December 10, 1874, she again became ill in a somewhat similar manner, and vomited. December 17th, she showed signs of peritonitis. December 18th, symptoms of shock manifested themselves, and on December 19th she died. At the autopsy, no signs of peritonitis were observable, but the gall-bladder, at one portion, showed an opening into the peritonæum, the result of perforation.

Calculus of the Urethra.—Dr. JANEWAY presented a calculus, one-half inch long and one-fourth inch broad, which he had removed from the urethra of a child. The patient was four years old, and occasionally had fits of crying, apparently the result of colic. During one of these attacks the calculus passed down and lodged in the urethra near the head of the penis. Previous to this the mother noticed that the child had a habit of pulling the penis, and at times complained of pain there. During four days he passed but little water, and for the last forty-eight hours the retention had been complete; and, on examination, a stone was found in the urethra, blocking it up. Previous to giving the child an anæsthetic, a uterine sound was introduced by the side of the calculus, to relieve to a certain extent the retention, and prevent the possibility of rupture of the bladder from the struggles of the child while taking the ether. The calculus was found to be made up of uric acid.

Impacted Fracture of Head of Femur.—Dr. Janeway also presented a section of head of the femur, showing the appearance of impacted fracture after it had healed. The specimen was obtained from the dissecting-room. The head and neck of the bone were driven directly in, and new bone was formed so as to hold the parts firmly in position. The extremity was found to be an inch shorter than its fellow of the opposite side. The fracture was extra-capsular.

Anchylosis of Knee-Joint.—This was another dissecting-room specimen, and showed formation of bone between the femur and tibia, with slight subluxation backward of the knee. The specimen was taken from a woman aged about twenty-five.

Bony Anchylosis of Elbow.—Apparently there had been fracture of the elbow, for the joint showed perfect bony fusion between the humerus, ulna, and radius, apparently of long standing.

Exostosis.—Dr. Janeway finally presented some bones showing marked exostoses. These, as well as the preceding, were obtained from the dissecting-room. In one femur a bony growth extended from the internal condyle upward to the extent of two or three inches.

Fracture of Base of Brain.—Dr. Erskine Mason presented the following case of basilar fracture, which in some respects was very interesting: The patient had been a clerk, and entered hospital December 29th. On admission he looked very much as if he had been drinking. For a few hours the respiration was stertorous, but no injury could be discovered about the head beyond a clot of blood in either ear. The pupils were normal, and there was no paralysis. He vomited pretty freely, the egesta smelling strongly of alcohol. The vomiting continued at intervals, and even on the third day there was a marked alcoholic odor in the vomited matters. He then complained of pain in the head near the ear. Ice-bags were applied over the ear, and bromide of potassium given. For two days after this he was conscious, but on the following day coma began to develop. On January 5th, the eighth day after the injury, he became wildly delirious. The left pupil became more dilated than the right, and there was paralysis of the left hand. The temperature was 101°. During the evening he improved, and became intelligent. January 6th, he again improved, but on January 7th, the tenth day after the injury, a profuse discharge took place from both ears. This proved to be cerebro-spinal fluid. January 9th, he was very bad, and and on January 13th, the sixteenth day from receiving the injury, he died.

Autopsy.—Dura mater adherent to the bone. The sinuses were distended with blood. A fracture was discovered extending through the ethmoid and petrous portions of both temporal bones. There was also a spot of softening on the under surface of the left middle lobe. There was only slight extravasation of blood within the cavity of the cranium. The case was of very decided interest, in showing the length of time that a patient might live who had extensive fracture of the base of the brain.

Malignant Disease of Bones of Head.—Dr. Kipp, of Newark, N. J., presented a specimen of cancer of bones of head, with the following history: The patient was a woman, aged forty-seven, having a cachectic appearance. Six months before death, complained of severe pain in the head. Two months before death, suffered from pain, accompanied with vertigo. There was complete paralysis of upper lid, and the eyeball was not freely movable. The tension of the globe was diminished, and the pupil did not respond to light. There was no protrusion of the eye. The right eye was normal. There was also a swelling of the Schneiderian mucous membrane, and occlusion of the nasal fossæ. Patient suffered also from deafness.

Four days before death, the patient was comatose. An examination of the specimen showed that the malignant disease involved the body of the sphenoid, as well as the temporal bone, and extended outward beneath the temporal muscle. The mass involved and pressed on all of the nerves of the orbit. The sheath of the sclerotic, however, was not involved. There was total destruction of the body of sphenoid bone. There was apparently encephaloid. It was referred to the Microscopical Society for report. The PRESIDENT thought that possibly it had its origin in the antrum.

Tetanus Neonatorum.—Dr. J. LEWIS SMITH gave the history of a child eight days old, who died of tetanus. The child was attacked with it when seven days old, and at the same time had diarrhœa. When Dr. Smith saw the case it was having a spasm every ten minutes. The cord had fallen off the day before. The child lived only one day, and the peculiarity of the case was that one year previously another child died of the same disease in the same house. Nothing was found at the autopsy to account for the disease.

Pyo-Nephrosis and Peri-Nephritis.—Dr. JANEWAY presented, for Dr. Polk, a specimen of pyo-nephrosis complicated with peri-nephritis. The patient was a man, aged thirty-two, who had at one time syphilis. Had also gonorrhœa. When he entered Bellevue Hospital he was suffering from œdema. The urine was large in amount, acid in character, and contained albumen.

January 25*th.*—Complained of lumbar pain.

February 12*th.*—A fluctuating tumor was discovered in the lumbar region. By means of the hypodermic syringe, two ounces of pus were withdrawn.

15*th.*—An incision was made at a point four inches to the left of the spinous processes of the vertebræ in the lumbar region, and thirty-eight ounces of pus evacuated.

March 9*th.*—The patient was doing very badly, and on the 10th died.

Autopsy.—A fluctuating tumor was found posteriorly over the left kidney; and, on examination, the left kidney was found to be surrounded with pus. The kidney itself was small, and in part destroyed. It was embedded in a mass of tissue, the result of cellulitis; and on its posterior surface were two openings, connecting with the infundibula. The ureter below the pelvis of the kidney was closed. There was also cystitis. The inference is that the cystitis was the starting-point, and from this there developed pyo-nephrosis. The pus of the pyonephrosis, escaping by the openings found, caused peri-nephritis, and, eventually passing upward between the diaphragm and pleura, gave rise to empyema, which hastened the patient's death. The right kidney was of the large white variety, and weighed eighteen ounces.

Bibliographical and Literary Notes.

Art. I.—*The Histology and Histo-Chemistry of Man; a Treatise on the Elements of Composition and Structure of the Human Body.* By Heinrich Frey, Professor of Medicine in Zurich. Translated from the fourth German edition, by Arthur E. J. Barker, Surgeon to City of Dublin Hospital, etc.

Prof. Frey needs no introduction to the profession in this country. As the author of an admirable work on the microscope, he is as well known here as abroad. It is hardly necessary to testify to the value of this present work, for the fact that it has already reached its fourth edition in Germany, a country that has done more than any other for histological investigation, is sufficient proof of the regard in which it is held by students of that country. In fact, it is there looked upon as the best work of its kind. Prof. Frey's experience as an original investigator in this field, and his critical knowledge of all that has been done by others, fit him peculiarly to be the author of a work of the kind.

It is none the less welcome because of appearing so late among us, and we trust it will serve to stimulate investigation in a subject as yet comparatively little studied in this country.

In his introduction the author gives the most important points in the history of the study. It is of comparatively modern date; the rudiments of it can be traced to a period quite remote. To Bichat, who died in 1802, he ascribes the credit of giving to the study the impetus which placed it on a systematic and enduring basis. But Bichat worked entirely without the microscope, not because that instrument was not at his command, but because, in his day, it was too clumsy and inaccessible. He depended solely upon the knife and chemical analysis, but by his researches he carried the science to a point beyond which there was little progress during a period extending far into the present century. With the production of microscopes with achromatic object-glasses, began an era memorable for brilliant discoveries in histological research. The interest in the study, dormant as it was for so long a period, then revived, and, by the aid of this wonderful little instrument, the tissue-elements and their combination to form the various structures were discovered.

Associated with the discoveries of this period, the names of Ehrenberg, Müller, Henle, and Schwann, are prominent. To the latter is due the honor of elucidating "the greatest discovery of histology"—the fact that all animal structures start from the cell. The names of Müller, Virchow, and Rindfleisch, have become famous in connection with another branch of the science, pathological histology, and to them, with a few others, we owe all our present knowledge of the subject. Of more recent origin is histo-chemistry, the chemistry of the tissues. In connection with this branch, the names that have been most prominent are those of Lavoisier and Berzelius. By the light shed by these brilliant teachers the remarkable advance of the present day has been achieved.

The plan of the author in this work is to combine histology and histo-chemistry, which, he says, "constitutes the most important foundation for physiology and scientific pathology." He arranges the whole subject in "three great natural divisions, viz.:

I. The elements of composition and of structure of the body.

II. The tissues of the body.

III. The organs of the body.

1. The elements of composition and of structure of the body.

(1.) The "elements of composition" consist of both organic and inorganic bodies, which may be called the transitory elements of the body; transitory in the sense that they do not abide in their original condition, but disappear through metamorphosis and decay, giving place to others of the same kind. It is the province of histo-chemistry to show how the various organs and tissues are built up from these elements, and to trace out their various processes of decay. These elements are the albuminoid substances and their derivatives, the various acids and salts, coloring-matters, etc.

(2.) The "elements of structure" are the cell and the elementary parts formed directly from the cells and intercellular substance.

The cell is now regarded as the "starting-point" of all animal life. It is a "living structure, endowed with special energies, and the peculiarities of active vitality, with the power of absorption of matter, of transforming the same, and of secretion; with the capability of growth, of change of form, and of cohesion or fusion with similar organisms;" possessing, also, undeniably, "the capability of vital motion, as well as of proliferation. It is the earliest "physiological unit."

2. The tissues of the body.

The chapters on the blood-vessels and lymphatics are very elaborate and interesting. The colorless cells originate in the chyle and lymph systems, or from the tissues of the spleen and medulla of bones. All their varied changes are described and illustrated, and the transformation eventually into the red corpuscles is made apparent by the experiment of Von Recklinghausen, who showed that "frog's-blood, collected in a vessel and kept from evaporation, while the air about is renewed several times daily, will show, in from eleven to twenty-one days, a transformation of the colorless corpuscles into the characteristic red cells of that animal."

The sections on coagulation will be found to contain many points familiar only to the special student.

The theory regarding the development of the vascular system, that the capillaries are formed by the union of formative cells arranged in rows, the central portion breaking down and the membrane of the cell forming the wall of the vessel, has given place to the one that the walls are formed from the formative cells, and that the calibre (lumen) is an intercellular space.

2. The organs of the body.

This portion of the subject is subdivided into "organs of the vegetable type" and "organs of the animal group," and the various apparatus are classed under their appropriate headings.

Taking up the circulatory system, among other points worthy of reference is the discussion of the physiological significance of the spleen. The debate has been upon the two theories relative to its connection with the blood-cells, whether it is concerned in their production or destruction. The former, the author claims, is more capable of being proved; the latter, though true to some extent, is merely accidental and not indicative of a function of the organ.

Under the sensory apparatus, we would refer to the sections on the minute anatomy of the eye in terms of unqualified admiration. We have never met with any thing better done. They fitly end a work which will make its author as famous in this country as in his own.

The book is printed in good type, and is replete with illustrations, there being over six hundred woodcuts, all well executed.

Art. II.—*A Practical Treatise on the Medical and Surgical Uses of Electricity.* By George M. Beard, M. D., and A. D. Rockwell, M. D. Second edition. Pp. 794. New York: William Wood & Co., 1874.

On page 237 we read: "In the portals of science, every new-comer is at first unwelcome, and is received with a frown, a kick, or a sneer," etc. While we acknowledge this to be often true, it by no mean applies to every new-comer, and, in spite of the effect which such a consideration ought to have upon the critic, we cannot review all that is claimed for electricity in this work without a smile of incredulity. Electro-therapeutics, like any other branch of therapeutics, will surely find its level some day; but why assert that "the stone which the builders rejected the same is becoming the head of the corner," or that "the progress of electro-therapeutics in the United States, during the past five years, is a fact unparalleled in the history of medicine?" On trial before the medical world, against a widely-prevalent feeling of distrust, what can be more damaging and injudicious, in the absence of proof, than such statements as the following, which we find on the first page of the new preface to the work before us?—"The use of general faradization, as a constitutional tonic, in a wide variety of affections, is now well established, and the effects that we have claimed for it have been confirmed, in full detail, by competent observers at home and abroad."

The chapter on the history of electro-therapeutics abounds in a Fourth-of-July style of rhetoric, mingled with scriptural and military phraseology that is entirely out of place in a work making any scientific pretensions. We were really quite unaware of the terrible conflict that seems to have been raging around us, but we are glad to learn that "opposition has called forth latent forces in the ranks of electro-therapeutists, which they dreamed not that they possessed, for they have been enabled to transcend themselves, and to attain a success that has surpassed their most sanguine expectation."

But, while we differ from the authors in thinking the millennium is not yet, we frankly acknowledge their services in the branch of medicine to which they have devoted so much time and labor, and recommend their work as containing much valuable information, especially in regard to electro-physics, and the best method of employing the various apparatus and appliances described.

Art. III.—*Six Months under the Red Cross with the French Army.* By George Halstead Boyland, M. D. 12mo. pp. 232. Cincinnati: Robert Clarke & Co., 1873.

The work before us can lay but little claim to strictly professional interest. The author was an assistant surgeon in the French army in the Franco-Prussian War, and as such had some interesting experiences. Any one may obtain, by perusing the work, a good idea of the duties of the medical officers in the military service, and also some interesting particulars pertaining to the conduct of the French campaign.

ART. IV.—*Compendium of Children's Diseases: A Handbook for Practitioners and Students.* By Dr. JOHANN STEINER, Professor of the Diseases of Children in the University of Prague, etc. Translated from the second German edition, by LAWSON TAIT, F. R. C. S., etc. 8vo, pp. xvi.–408. New York: D. Appleton & Co., 1875.

THIS work is a very comprehensive treatise, embracing every thing that could be suggested in regard to children's diseases proper, and, although condensed, omitting but little of a strictly practical character. The author has succeeded very well in presenting his descriptions clearly and yet so concisely as to render the work especially adapted to the wants of the student and general practitioner. The work is brought down to the latest date, and the author's views are, for the most part, acceptable to the profession.

The portion of the work devoted to the discussion of nervous diseases is especially comprehensive. These affections are described with a thoroughness truly German.

Chorea is described as consisting of three varieties—1. "St. Vitus's Dance—Chorea Minor;" 2. "Chorea Magna—German Chorea;" 3. "Chorea Electrica." The *chorea magna* is said to be a rare affection, consisting of paroxysmal disturbances of the musculo-motor power, such as convulsive movements, jumping, etc., attended with mental disturbance. The temperature and pulse are usually increased during the paroxysm, and nervous prostration attends the interval. It usually occurs in the female sex, and about the age of puberty. *Chorea electrica* consists in suddenly-developed, violent, and symmetrical contractions of the muscles, resembling that occasioned by electricity. These varieties are successfully treated with iron, zinc, the bromides, or arsenic, according to the apparent constitutional condition.

Croup is described as catarrhal and membranous, spasm of the glottis being considered separately.

The author says that "pulmonary phthisis" does not define any independent disease, but is the result of certain pathological processes, and "may originate in tuberculosis, in lobar or lobular (broncho) pneumonia, or in chronic bronchitis."

As regards the nature of tubercle, the author says it may occur "either in the miliary form or in larger nodules, known as the yellow and gray tubercle, and is due to an increase in cell-growth, either in the external walls of the capillary vessels, of the lymphatics, or in the interstitial cellular tissue; but whether this increase is inflammatory in its origin or neoplastic, is not yet decided."

Respecting the causation of typhoid fever, the author says (p. 364), "It is now almost certain that it is not contagious;" and proceeds to state that the most frequent source of the disease is found in impure drinking-water, the origin of the poison being in decomposing animal matter. He alludes to the view that it may also be due to the vegetable parasites, *Rhicopus nigricans* and *Penicillium crustaceum.* Bad hygienic influences are said to excite or predispose to an attack.

In the January number of this journal[1] we expressed our acceptance of the view of Liebermeister, that typhoid fever belonged to the class of miasmatic contagious diseases, and that for its infection it was necessary for the special poison (contained in the excreta) to undergo certain changes which water and filth favored, and that it (the *materies morbi*) may be conveyed through the medium of the air, as well as by means of drinking-water.

The author, in his recommendations for the treatment of peritonitis, advises to commence the treatment with a gentle calomel-purge; then follow with opiates, the application of ice when it can be borne, etc. In this country the opiate treatment from the first is pretty generally conceded to be the safer course, avoiding all laxatives until the inflammatory symptoms have subsided.

As a general thing, the therapeutics advised by the author are in accordance with the most modern ideas, and such as we can most heartily approve. If there is any fault with this branch of the author's discussions it is that of a little want of fullness of detail. The condensed style of Dr. Steiner, together with his vast experience, commends the work to all practitioners of medicine who desire, within reasonable limits, a comprehensive treatise on the diseases of children. There is little to criticise, but much that is deserving of praise. The translation is very well done, and the annotations of Mr. Tait add to the value of the work. The publishers have presented the book in their usually good style.

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[1] Review of Ziemssen's "Cyclopædia of the Practice of Medicine," vol. i.

Art. V.—*Syphilitic Lesions of the Osseous System in Infants and Young Children.* By R. W. Taylor, M. D. Pp. 179. New York: William Wood & Co., 1875.

This monograph commends itself to every earnest and honest student of disease, and especially to all who are interested in diseases of children, affections of the bones, or venereal maladies.

The author's personal cases number twelve, exclusive of two observed with Dr. Bulkley, and it is mainly in relation to the clinical aspect of the disease, and its differentiation in a practical way, that the treatise excels.

Minute attention has been given to the literature of the subject, and a fair hearing granted to the views of others. The study of dactylitis syphilitica, with which the name of the author has been for some time associated, is fully brought out in the present essay, while the changes, hyperplastic and degenerative, which are induced by syphilis in the cartilage and surrounding structures at the diaphyso-epiphysial junction of the long bones, being of most importance, are brought out into especial prominence.

The remarks upon differential diagnosis with rickets are valuable.

As to treatment, in opposition to many authorities, Dr. Taylor rejects inunction, believing it "apt to produce severe cutaneous inflammation, and sometimes grave systemic disturbance, such as great enfeeblement, impoverishment of the blood, with cachexia." He commends an internal mixed treatment, commencing with an exceedingly minute dose (one four-hundredth of a grain of bichloride or biniodide of mercury, three-fifths of a grain of iodide of potassium for a child two months old), and gradually increasing. It is noticeable that Dr. Taylor advocates Fournier's plan of interrupted courses of treatment more or less prolonged.

A possible objection to the essay is that it covers too many pages, but the careful reader readily pardons this seeming fault, or indeed applauds it, in consideration of the minuteness of detail with which the subject is handled, its thoroughness, and in many respects originality, a detail impossible in text-books, and too often neglected in monographs.

The volume is a credit to American medical literature. The noticeable absence of typographical errors, and the elegance of dress on which the essay appears, are commendable.

Art. VI.—*A Course of Lectures on Physiology.* As delivered by Prof. Küss at the Medical School of the University of Strasbourg. Edited by Mathias Duval, M. D., formerly Demonstrator of Anatomy at the Medical School of Strasbourg, Adjunct Professor of the Medical Faculty of Paris, etc. Translated from the second and revised edition by Robert Amory, M. D., formerly Professor of Physiology at the Medical School of Maine, etc. Illustrated by One Hundred and Fifty Woodcuts inserted in the Text. Boston: James Campbell, 1875.

The translator of this text-book states in his preface that, during his experience as a teacher, he found it difficult to recommend a book wherein the relations of physiology to histology were carefully presented. This want, he thinks, is better supplied by the work of Prof. Küss than by any other text-book in the English language. The manual is certainly very full in histological details, and, though smaller than the usual text-book, it is made to cover the entire domain of physiology, as studied in the schools. To accomplish this it has been necessary to condense a large amount of information into so small a compass, that we doubt if it will answer the purpose of the student as well as a somewhat larger treatise. The histological portion is excellent, and the volume will no doubt be found a useful adjunct to any other work on the same subject. The illustrations aid much in understanding the text. There still remains, however, the want of a thoroughly good modern text-book on physiology.

Art. VII.—*On Winter Cough, Catarrh, Bronchitis, Emphysema, Asthma.* A Course of Lectures delivered at the Royal Hospital for Diseases of the Chest. By Horace Dobell, M. D., Senior Surgeon to the Hospital, etc., etc. Third and enlarged edition. With Colored Plates. Philadelphia: Lindsay & Blakiston, 1875.

In noticing the second edition of this work we mentioned the somewhat peculiar views advanced by the author, though with all modesty, regarding the etiology and pathology of diseases of the air-passages and lungs. Additional experience seems to have confirmed him in his opinions, and enabled him to elaborate and explain them more fully.

We are glad to see that the directions for treatment, which seemed deficient in the previous editions, have been considerably extended, adding much to the practical value of the work.

Art. VIII.—*On Functional Derangements of the Liver; being the Croonian Lectures delivered at the Royal College of Physicians, in March*, 1874. By Charles Murchison, M. D., LL. D., F. R. S., Physician to and Lecturer on Principles and Practice of Medicine, St. Thomas's Hospital, London, etc. Pp. 182. New York: William Wood & Co., 1875.

These lectures have been already published in the *Lancet* and *British Medical Journal*, but in the present more convenient form they will prove very acceptable to the profession. Some additions and changes have been made by the author, so that the volume, small though it be, is a very excellent and valuable treatise, and one we can heartily recommend. Prof. Murchison is a high authority on diseases of the liver, and all that he has to say on that subject is worthy of careful study. The chapter on treatment is full and satisfactory.

Art. IX.—*Physician's Pocket-Case and Prescription Blank-Book.* Cincinnati: Case Record Co., 1875.

These blanks have proved very useful in daily practice. The books, containing three blanks on a page, are found convenient for office-use.

Books and Pamphlets Received.—Syphilitic Lesions of the Osseous System in Infants and Young Children. By R. W. Taylor, M. D., Surgeon to the New York Dispensary, Department of Venereal and Skin Diseases, Physician to Charity Hospital. New York: William Wood & Co., 1875.

A Manual of Hygiene, Public and Private, and Compendium of Sanitary Laws; for the Information and Guidance of Public Health Authorities, Officers of Health, and Sanitarians generally. By Charles A. Cameron, M. D., F. R. C. S. I., etc., etc. With Thirty-five Illustrations. Dublin: Hodges, Foster & Co.; London: Baillière, Tindall & Cox, 1874. Pp. 475.

A Retrospect of the Struggles and Triumph of Ovariotomy in Philadelphia, with some Additional Remarks on Allied Subjects. The Annual Address before the Philadelphia County Medical Society. By Washington L. Atlee, M. D., Retiring President. Delivered February 1, 1875. Published by order of the Society. Philadelphia: Collins, 1875.

Lectures on Diseases of the Respiratory Organs, Heart, and Kidneys. By Alfred L. Loomis, M. D., Professor of Pathology and Practical Medicine in the Medical Department of the University of New York, Visiting Physician to Bellevue Hospital, etc., etc. New York: William Wood & Co., 1875.

The Toner Lectures, instituted to encourage the Discovery of New Truths for the Advancement of Medicine. Lecture IV. A Study of the Nature and Mechanism of Fever. By Horatio C. Wood, M. D. Delivered January 20, 1875. Washington: Smithsonian Institution, 1875.

Discourse commemorative of the Life and Character of Alexander Hodgdon Stevens, M. D., LL. D., etc. Delivered, by Appointment of the New York Academy of Medicine, May 25, 1871. By John Glover Adams, M. D. New York: Anson D. F. Randolph & Co., 1875.

A Report on Microscopical and Physiological Researches into the Nature of the Agent or Agents producing Cholera. (Second Series.) By T. R. Lewis, M. B., and D. D. Cunningham, M. B., Surgeons H. M. British Service. Calcutta: Government Printing-Office, 1874.

A Practical Treatise on Eczema, including its Lichenous and Impetiginous Forms. By Dr. McCall Anderson, Professor of Clinical Medicine in the University of Glasgow, etc., etc. Third edition, with Illustrations. Philadelphia: Lindsay & Blakiston, 1875.

A Treatise on Cutaneous Medicine and Diseases of the Skin. By H. S. Purdon, M. D., Physician to the Belfast General Hospital, etc., etc. London: Baillière, Tindall & Cox; Belfast: McCracken & Mogey, 1875.

The Pathological Significance of Nematode Hæmatozoa. By T. R. Levis, M. D., Staff-Surgeon to H. M. British Forces, India. Calcutta: Government Printing-Office, 1874. Pp. 54.

The Relations of the Nervous System to Diseases of the Skin. By L. Duncan Bulkley, A. M., M. D. Reprinted from the Archives of Electrology and Neurology, for November, 1874.

Note on Salicylic Acid. By Edward R. Squibb, M. D., Brooklyn, N. Y. Read before the Medical Society of the State of New York, February 2, 1875. Pp. 10.

Health: A Hand-book for Households and Schools. By Edward Smith, M. D., F. R. S., etc. New York: D. Appleton & Co., 1875.

Scleritis Syphilitica: its Pathology, Course and Treatment. By Fred. R. Sturgis, M. D. New York: G. P. Putnam's Sons, 1875.

Reports on the Progress of Medicine.

PHYSIOLOGY.[1]

PREPARED BY GEORGE B. FOWLER, M. D.

Pulmonary Hæmorrhage from Injury of the Brain.—H. Nothnagel (*Centralblatt*, No. 14, 1874) has found that injury to the surface of the brain at certain points produced hæmorrhage in the lungs. Subsequent examinations of the lungs of the insane have revealed in a great many instances pulmonary hæmorrhage. Nothnagel found also that he could regularly produce meningitis, but almost always confined to the opposite side of the brain.

The Location of the Respiratory Centre. Gierke (*Pflüg. Arch.*, viii. abstract in *London Medical Record*, No. 71.)—This author locates the respiratory centre in a bundle of fine nerve-fibres lying on each side of the middle line of the medulla oblongata. It has previously been described as belonging to the origin of the vagus and glosso-pharyngeal nerves. It is a continuation of bundles, which, higher up in the medulla, pass out transversely from the nuclei of the vagus and hypo-glossal, and then proceed longitudinally down through the cord and finally lose themselves in the reticular nervous tissue between the anterior and posterior horns. This respiratory centre does not consist of a distinct group of cells.

P. Rokitansky (*Stricker's Med. Jahrbüch.*, 30, 1874) considers that the respiratory centre is not confined to the medulla, but extends to the cord, for he can produce the respiratory act in rabbits poisoned by strychnia, although the medulla has been separated from the cord. Rabbits die from imperfect respiration when the medulla is divided at the posterior border of the pons. When respiration has been arrested by dividing the medulla at this point, it begins again if strychnia be injected.

Physiology of Vaso-Dilator Nerves.—A. Vulpian (*Arch. de Phys.*, No. 1, abstract in *Journal of Anatomy and Physiology*, November, 1874) contradicts the assertion that there exists a veritable antagonism between the vaso-inhibitory and vaso-motor nerves. Under this assumption the vessels of the corresponding half of the tongue must contract after section of the chorda tympani. They, however, do not.

Influence of Removal of the Superior Cervical Ganglion on the Movements of the Iris. (Abstract in *Journal of Anatomy and Physiology*,

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[1] Part of a Report read before the Medical Journal and Library Association of New York, February, 1875.

November, 1874.)—Vulpian has found that, if the superior cervical ganglion, which supplies the ciliary muscles of the iris, be removed, electrical stimulation of the skin of the abdomen and hinder extremities will cause contraction of the pupil. He concludes, therefore, that the motor fibres of the iris must be derived from some other source.

Is the Medulla Oblongata the Exclusive Origin of the Vaso-Motor Nerves? Abstract in *Centralblatt*, No. 44.—A. Vulpian has endeavored to determine whether the vaso-motor nerves all have their deep origin in the medulla. He operated upon curarized dogs in whom artificial respiration was maintained. The spinal cord was divided in the neck at the level of the second cervical vertebra, and at the same time, in the middle of the dorsal region, half divided. As a result, the temperature rose slightly in both extremities; and in the frog the vessels in the foot were wider on the side in which the cord had been partially severed than on the other.

If the vaso-motor centre is confined to the medulla, no reflex phenomena should be shown by the vessels below the section of the cord in the neck. But it was found that, if the ischiatic nerve were divided and its central end stimulated by electricity, the vessels contracted in the limb, shown by diminution in temperature. He concludes that the vaso-motor system has numerous centres throughout the cord.

Hypertrophy of the Ear resulting from Excision of a Portion of the Cervical Sympathetic in the Rabbit. (*Centralblatt für Chirurgie*, No. 7, 1874.)—A. Bidder excised a portion of the sympathetic in the neck of a half-grown rabbit. The usual symptoms of elevated temperature and contraction of pupil followed. In a month the ear upon the operated side was distinctly broader and longer, and still much warmer than the other. The rabbit continuing to grow, a fortnight later the difference in size between the two ears was still more striking. This increase in growth was attributed to the increase of blood-supply consequent upon section of the sympathetic.

Stimulation of the Splanchnic Nerves.—Van Braam-Hougkiest, in order to determine whether this inhibitory influence existed apart from their vaso-motor power (*Pflüg. Arch.*, viii., abstract in *Journal of Anatomy and Physiology*, November, 1874), found that, when both splanchni were divided and one of them slightly stimulated, the movements of the stomach and intestines, previously produced by stimulation of the vagus, ceased at once, without those portions of intestines which were brought to rest becoming pale. The stimulation was sufficient to excite the inhibitory but not the vaso-motor fibres of the splanchnic.

On Cough, by Dr. O. Kohts. (*Virch. Arch.*, vol. x., Part II.)—Researches upon this subject are rare. Krimer thought it due in the first place to irritation of the nerves of the voice, because he found that, when iron filings were blown into the larynx, violent coughing followed. He noticed, after section of the vagus, that the pitch of the voice and cough suffer alike. He could produce no cough by irritation of the recurrent laryngeal; and, when both these nerves were cut, cough could still be produced; also, when the vagus was cut on both sides, irritation of the œsophagus produced cough, but, when the œsophagus was cut away, cough could not be produced. Later, Budge showed by experiment (*S. Allgem. Pathol.*, S. 222) that irritation of the lungs and larynx caused no cough, and he thought it must, therefore, come from the trachea. Others found like results. But Longet produced cough by irritation of the vagus-trunk; Schiff by irritation of the superior laryngeal; J. Rosenthal produced cough by stimulation of the inner branch of the superior laryngeal and by exhaustive stimulation of the upper surface of the diaphragm; he saw at the same time, as a result of such irritation, the sudden closureof the glottis and contraction of the expiratory muscles. Nothnagel, in a remarkable paper, points out that the seat of cough lies in the mucous membrane of the trachea and bronchia; he could not produce it by irritation of pleura normally or pathologically.

Dr. Koht's conclusions are as follows:

Cough could be produced by irritation of the vagus, its pharyngeal and supra-laryngeal branches.

Irritation of mucous membrane of pharynx, larynx (fossa arrittinoidiæ).

Irritation of the trachea, the bifurcations, and the bronchi pleura costales, œsophagus.

Central cough could be produced by irritation of the medulla oblongata.

Vulpian retracts his Statement regarding the Similarity of the Action of Motor and Sensitive Nerve-Fibres.—It will be remembered that in 1863 Vulpian performed the following experiment, which attracted an unusual amount of attention, and has even become classical:

The central end of a sensitive nerve (lingual) and the peripheral end of a motor nerve (hypo-glossus) were united. Three months afterward the lingual was cut at its entrance into the cranium. Irritation of the central stump which terminated in the hypo-glossal produced movements in the tongue, showing that the nervous "*current*" or influence will traverse the fibres in either direction. Now, however (*Comptes Rendus*, June 26, 1874), M. Vulpian, having repeated these experiments, retracts these views, and says that the motion in the tongue was due to the association with the lingual of fibres from the chorda tympani. And, if the chorda tympani be previously cut, no motion follows irritation of the lingual thus joined to the hypo-glossal.

Action of Bile in promoting Absorption of Fats. H. WILLIAMS (*Boston Medical and Surgical Reporter.*)—This observer has performed a series of experiments on the above subject, and arrives at the following conclusions:

1. The passage of neutral fat through capillary canals or pores is favored by the presence of bile in those pores. 2. That this action is increased when the bile is rendered alkaline, and diminished when it is acid. 3. That the action cannot be due to the bile changing the form of the pores. 4. That, after passing through membranes moistened with bile, the fats appear more finely divided than with the membranes wet with other substances, apparently showing that the tension or cohesion of the fat has been affected.

Physiology of the Kidney. (*British Medical Journal*, September 9, 1874.)—Bowman's theory that the Malpighian bodies separate the water, and the convoluted tubes the solids of the urine, has been recently greatly strengthened by some experiments performed by Heidenhain in Germany.

Taking advantage of the affinity which the kidney has for indigo, Heidenhain injected the sulphate of indigo into the circulation of a living animal. The result invariably was to color the kidney and the urine blue. But, varying the conditions of the operation, the following facts were observed:

Having caused suppression of urine by section of the spinal cord below the medulla, he injected indigo into the circulation, and kept the animals alive by artificial respiration, and examined them at various periods after the operation.

Immediately examined, the convoluted tubes were colored blue, while the Malpighian bodies and straight tube were unaffected. In animals killed and examined ten minutes after injection, the gland-cells of the convoluted tubes were colored blue, but their canals were free from coloring-matter.

After an hour the coloring-matter had passed entirely from their gland-cells and occupied the cavities of the tubes, and, on account of the suppression of the watery element of the urine, the blue deposit was not washed out but remained and crystallized.

The suppression of water was also effected by ligature of the ureters, and the experiments repeated with the same results as those just enumerated.

These facts seem to point to the conclusion that the water is eliminated by the Malpighian tufts, and flowing down dissolves and washes out the solids separated by the convoluted tubes below. Also that the solids are excreted even when the water is suppressed.

To add further proof Heidenhain injected into the circulation a concentrated solution of urate of soda, the water being suppressed, and found this substance crystallized in the convoluted tubes and in them alone.

Influence of the Quantity of Blood upon the Blood-Pressure. MÜLLER (*Ludwig's Arbeiten*, vol. viii. · Abstract in *Lon. Med. Rec.*, *No.* 77, 1874).—The experiments were made upon dogs. He has established this remarkable fact, that the vascular system can accommodate large quantities of blood without there being any marked increase in the normal arterial blood-pressure, which was always measured in the carotid.

More than 16 per cent. of the body-weight of the animal in blood could be injected into the jugular vein without (after the termination of the injection) the blood-pressure in the beginning of the aortic system becoming markedly higher than it was in the normal dog before the commencement of the experiment, i. e., the quantity of blood that the animal originally had could be increased to three times its original amount without producing any marked increase in the arterial blood-pressure. Within certain limits this also holds if the blood-pressure have been lowered, either by section of the spinal cord or by bloodletting.

As soon, during the injection, as the blood-pressure had reached the value noted before the beginning of the experiment, the addition of several quantities of blood did not raise the pressure above the normal.

That the blood, in spite of the overfilling of the vascular system, remained within it, and that no important exit of blood or blood-plasma took place through the walls of the vessels, was established by the negative results found on very careful *post-mortem* examinations.

To dispose of the idea of a simple serous exudation, the thoracic duct was opened to observe the outflow of lymph during and after the injection of defibrinated blood. The rapidity of the lymph-current increased with the quantity of blood added, but a sinking of the blood-pressure with an increased flow of lymph was not observed.

The author is of the opinion that the extra blood has been accommodated in the abdominal veins and in the capillaries distributed over the whole body; indeed, *post-mortem* examinations revealed this to be the fact. Very probably, throughout the whole body, under normal conditions, there exist many capillaries entirely or partly empty, and which are filled only when the quantity of blood is increased.

Even with pronounced filling of the vascular system, no change in the capacity of the heart for action occurred. With increased percentage of blood, the pulse-beats remained either unchanged or diminished so irregularly that this point could only under circumstances be brought into account.

The lungs were found congested *post mortem.* An increased friction of the blood in the lungs could not alone explain the non-increase of the blood-pressure. Neither congestion of the right heart, nor of the large veins leading into it, was found. Animals which had received from one to three times their original quantity of blood were much more sensitive to bloodletting than under normal conditions.

[TO BE CONCLUDED IN OUR NEXT ISSUE.]

Miscellany.

Appointments, Honors, etc.—Dr. Wm. H. Taylor has been elected Professor of Chemistry in the Medical College of Virginia. Dr. R. A. Kinloch has retired from the editorship of the *Charleston Medical Journal and Review*. Prof. Darby's spring course of lectures at the university will be on diseases of the rectum. William Hales Hingston, M. D., one of the leading practitioners of Montreal, has been elected mayor of that city. Dr. Joseph Workman, who has occupied the position of Superintendent of the Toronto Lunatic Asylum for twenty-five years, has tendered his resignation on account of advanced age. Twelve hundred and ninety-three volumes, most of them of European origin, were added to the library of the College of Physicians of Philadelphia last year. The Legislature of Illinois has appropriated $185,000 for a school for feeble-minded children, to be established either in Jacksonville or Quincy. The Woman's Medical College of Philadelphia has received a gift of $50,000 from Mrs. J. V. Williamson, for the endowment of free scholarships in the school, and free beds in the hospital connected with it. Dr. F. H. Hamilton has resigned his chair of Surgery in Bellevue Hospital Medical College.

Mr. Spencer Wells and Mr. Wm. Darwin were the only Englishmen created Doctors of Medicine at the Tercentenary of the University of Leyden. Bunsen and Milne Edwards were the only other foreigners who received the same honor. "More Victims" is the pleasant title under which the *Medical Times and Gazette* publishes the list of successful candidates for the naval medical service. Dr. John Cronyn has been elected Professor of Midwifery in the Irish College of Surgeons. Dr. Gervis has been appointed Obstetric Physician to and Lecturer on Midwifery at St. Thomas's Hospital, succeeding Dr. Barnes. Dr. Charles Mayo has been appointed one of the colonial surgeons at the Feejee Islands. Prof. Andral, the eminent pathologist, has reappeared in scientific circles, and resumed investigations. His retirement was due to the illness of a near relative, to whom he has devoted all his energies for several years. Dr. Jungkers, Professor of Surgery in the University of Berlin, on the 17th of January completed the fiftieth anniversary of his appointment, and was presented by the Emperor with the Star of the Order of the Crown of the second class.

Bellevue Hospital Medical College Commencement. — The fourteenth annual commencement of this school took place at the Academy of Music on the afternoon of Thursday, February 25th, and the exercises were enlivened by excellent music by an orchestra under the direction of M. Bergman. One hundred and ninety-five gentlemen received the degree of Doctor in Medicine, and were addressed by Hon. John R. Brady. The valedictory address was delivered by John H. Duncan, of the graduating class.

The following prizes were awarded: Prize for the best standing in the general examination—Dr. Frederick S. Dennis, of the class of 1874, who obtained the prize of $100 of that year, offered by Dr. James R. Taylor, offered the same prize to be competed for by members of the class of 1875. In making the award, the Faculty found it impossible to decide between two candidates who were of equal merit. The prize was therefore divided between Leonard J. Gordon, of New Jersey, and Leopold Putzel, of New York.

Two other prizes, offered by James R. Taylor, of the class of 1874, for general examination ranking second and third in excellence, were awarded as follows: The second prize, $50, to Henry M. Silver, of New York; the third, of $25, to Charles H. Thomas, of Kentucky.

The prize of $100 offered by Prof. James R. Wood to the Alumni Association, for the best essay upon any subject connected with surgical pathology or operative surgery, was awarded to Dr. L. A. Stimpson, of the class of 1874. Dr. Stimpson being in Europe, the Secretary received the prize for him.

The two prizes also offered by Prof. Wood—one of $50, the other of $25, for the best preparations relating to surgical anatomy, were won by Dr. E. Morrison, of the Bellevue School, and Mr. Benjamin Benoit, Jr.

Prof. A. B. Mott's prizes for the best reports of his clinique, were of $50 and $25 each, but were equally divided between A. J. Reynolds and N. A. Powell, whose reports were considered by Dr. Mott to be of equal worth.

The prize of $50, offered by James Brice, Esq., to the graduate who should present the best inaugural thesis upon obstetric medicine, or diseases of women and children, was awarded to Leopold Putzel. On account of the excellence of the thesis presented by L. J. Gordon, Prof. Fordyce Barker added a second prize of $25 in gold, which was awarded him.

Prof. A. Flint, Jr., announced the establishment of the prize of $100 by the Alumni Association.

The graduating class was sumptuously entertained at Delmonico's by the Faculty in the evening.

Reorganization of the Medical Staff of Bellevue Hospital.—The Commissioners of Charities and Correction, at a meeting held March 11th, adopted the following resolutions, to take effect on March 15th:

Resolved, That the Medical Board of Bellevue Hospital shall, on the 15th day of March, 1875, be organized in the manner following, and thereafter the Board as at present constituted shall have ceased to exist:

That the Medical Board be increased to twenty-four members.

That, on the 15th day of March, 1875, the following-named physicians and surgeons shall constitute the Medical Board of Bellevue Hospital: Alonzo Clarke, John J. Crane, Isaac E. Taylor, Austin Flint, Fordyce Barker, Alfred L. Loomis, Thomas M. Markoe, Lewis A. Sayre, William T. Lusk, Alexander B. Mott, Ernest Krackowizer, Henry B. Sands, John W. S. Gouley, Frank H. Hamilton, Edward G. Janeway, Francis Delafield, William H. Thompson, Charles A. Budd, Gouverneur M. Smith, Erskine Mason, William M. Polk, Abraham Jacobi.

That there be a department for the diseases of women.

That there be a department of orthopedic surgery and diseases of children.

The Board to be divided as follows: Ten physicians, two of whom, hereinafter named, to be appointed to the Department of Diseases of Women, and ten surgeons; also two for orthopedic surgery and diseases of children, and two for the Department of Maternity.

The Medical Board shall be divided as follows: Drs. Alonzo Clarke, Alfred L. Loomis, Austin Flint, Edward G. Janeway, William M. Polk, Abraham Jacobi, William T. Lusk, Charles A. Budd, Francis Delafield, William H. Thompson. Surgeons: Drs. James B. Wood, John J. Crane, Stephen Smith, John W. Gouley, Frank H. Hamilton, Alexander B. Mott, Henry B. Sands, Thomas M. Markoe, Ernest Krackowizer, Erskine Mason. Department of Diseases of Women: Dr. W. T. Lusk, Dr. Charles A. Budd. Department of Orthopedic Surgery and Diseases of Children:

Dr. Lewis A. Sayre, Dr. Gouverneur M. Smith. Obstetrical Department on Maternity: Dr. Isaac E. Taylor, Dr. Fordyce Barker.

That the Medical Board nominate to the Commissioners of Public Charities and Correction physicians and surgeons to fill vacancies.

That the resolution passed November 23, 1866, limiting the term of service of the Medical Board to fifteen years, be and hereby is rescinded.

That the attending physicians and surgeons shall serve twice each year, and each service shall continue for two months.

That the resolution passed July 28, 1874, making theservice of members of the Board continuous through the year, be and is hereby rescinded.

That the Medical Board shall, at their first meeting, divide themselves into three classes, eight members to serve three years, eight members to serve five years, and eight members to serve seven years, the classification to be determined by lot.

That the rules and regulations of the hospital, not inconsistent with the foregoing, shall be continued in force.

Various Medical Associations.—The Florida State Medical Society convened in Jacksonville, February 10th, and after a harmonions session of two days, devoted chiefly to the framing of a Constitution and By-Laws, adjourned to meet January, 1876, at Tallahassee. Dr. Baldwin delivered an address on "Climatology," with special reference to Florida. Dr. E. P. Wellford, of Jackonsville, was elected Secretary.

The Kentucky State Medical Society will hold its 20th annual session at Henderson, April 6, 1875.

The Southern Illinois Medical Association, a new society, has been organized in Jonesborough, Ill. The following are the officers-elect: President, Dr. H. C. Hacker; Vice-Presidents, Drs. McLain and Wardner; Secretary, Dr. G. W. Schushardt; Treasurer, Dr. W. C. Lence.

The regular practitioners of medicine in Salt Lake City organized a society on the 1st of February, to be called the Salt Lake City Medical Society. A Constitution and By-Laws were adopted, together with the code of ethics of the American Medical Association, and the following officers were elected: President, W. F. Anderson; Vice-President, J. F. Hamilton; Secretary, H. C. Richards; and Treasurer and Librarian, J. M. Williamson.

At the annual meeting of the Des Moines Valley (Iowa) Medical Association, at Wapello, the following officers were elected: S. H. Sawyer, President; W. L. Chamberlain, Vice-President; W. S. Lambert, Assistant Secretary.

The College of Physicians and Surgeons.—The sixty-eighth annual commencement exercises of the College of Physicians and Surgeons (Medical Department of Columbia College) were held on Tuesday evening, March 2d, at Steinway Hall. The graduating class numbered one hundred and eight. Prof. Edward L. Beadle, Vice-President of the College, presided. After the conferring of degrees, Dr. Beadle referred in eulogistic terms to the late Dr. Edward Delafield, and gave a brief sketch of his career.

The following prizes were then announced by Prof. Dalton:

Faculty Prizes—First prize, William H. Welsh, A. B., Norfolk, Conn.; second, Joseph D. Anway, New York City. Honorable Mention—Edward Lasell Partridge, Lawrence, Mass.; John E. Stillwell, New York City; Howard Williams Longyear, Detroit, Mich.; James H. Casey, East Haven, Conn., and D. Bryson Delavan, New York City.

Prof. Thomas's prize case of surgical instruments, Alonzo Blauvelt, New York City.

Prof. Otis's prize, $50, John E. Stillwell, New York City.

Prof. Seguin's prize, Alfred Masters, New York City.

Prof. Dalton announced that a prize of $50 would be offered by Dr. Oakley Vanderpoel for the best examination in anatomy at the next commencement, in March, 1876.

The valedictory address was delivered by Stephen S. Burt, M. D., of the graduating class; and the exercises were closed by the Rev. Dr. Washburn.

Alumni Association of the Medical Department of the University of New York.—On Thursday evening, February 18th, the alumni of the Medical Department of the University held their annual meeting and dinner at Delmonico's—Dr. James R. Leaming presiding. Previous to the dinner the following officers were elected for 1875:

For President, Charles Inslee Pardee, Class of 1860. For Vice-Presidents, Alfred L. Carroll, Class of 1855; John R. Dickson, Class of 1842; S. Fleet Speir, Class of 1860; J. J. Peterson, Class of 1870; Thomas C. Finnell, Class of 1849; Josiah Gautier, Class of 1843. For Secretary, three years, F. R. S. Drake, Class of 1871. For Treasurer, C. Dixon Varley, Class of 1844. For Executive Committee, James H. Anderson, Class of 1860; D. B. St. John Roosa, Class of 1860; S. Seabury Jones, Class of 1869; Stephen J. Clark, Class of 1861; F. Le Roy Satterlee, Class of 1868; A. E. Macdonald, Class of 1870; Joseph J. Hull, Class of 1858; Daniel H. Kitchen, Class of 1870; Nathaniel C. Husted, Class of 1850; William T. Bacon, Class of 1871; Andrew Otterson, Class of 1844; Edward L. Pardee, Class of 1870.

Graduates of 1875.—The following are the numbers of recent graduates at the medical colleges from which we have been able to find reports:

Bellevue Hospital Medical College	195
College of Physicians, New York	108
University of New York	95
Louisville Medical College	83
Rush Medical College	77
Missouri Medical College	67
University of Nashville	58
Louisville Hospital College of Medicine	56
College of Physicians and Surgeons, Baltimore	39
Atlanta Medical College	38
Miami Medical College	36
Medical College of Georgia	27
Washington University, Baltimore	26
Detroit Medical College	24
Cleveland Medical College	22
Iowa State University	20
Charleston Medical College	19
Yale Medical School	17
Woman's Medical College, Philadelphia	16
University of Syracuse	11

Association of ex-Confederate Surgeons.—We are requested by Dr. S. P. Moore, President of the Association of Medical Officers of C. S. Army and Navy, to state that the meeting of that body appointed for July next will be held in Richmond, Virginia, on the 19th October, 1875, at 11 o'clock A. M. The Medical Association of Virginia convenes in Richmond on the following day, October 20, 1875.—*Southern Medical Record.*

Minnesota State Medical Society.—The Society held its regular annual session in St. Paul, February 2d, the President, Dr. N. B. Hill, in the chair. The following officers were elected for the ensuing year: President, J. H. Stewart, of St.

Paul; First Vice-President, Dr. Otis Ayer, of La Sueur; Second Vice-President, Dr. A. C. Wedge, of Albert Lea; Third Vice-President, Dr. D. W. Hand, of St. Paul; Treasurer, Dr. S. B. Sheardown, of Winona; Secretary, Dr. Charles E. Smith, of St. Paul; Corresponding Secretary, Dr. A. W. Stinchfield, of Eyota, Olmsted County.

American Clinical Lectures.—The second number of this series, for February, consists of two learned and exceedingly interesting lectures, by Prof. A. Jacobi, on "Acute Rheumatism in Infancy and Childhood." The subject is treated in a masterly manner, and with all the freedom of an experienced clinical teacher. Dr. Seguin has thus far been eminently successful in his selections, and promises equally good material in the future. The next of the series will be a lecture on "Pneumo-thorax," by Austin Flint, Sr. The publishers, the Messrs. Putnam, are presenting the series in a style very creditable to American journalism.

A Substitute for Ordinary Poultices.—Dr. Lelievre, of Paris, recommends the use of carrageen lichen (*Fucus crispus*), in place of linseed-meal or other poultices. It may be cut in thin pieces of the size required, and it softens and swells rapidly in hot water. Experiments made with it in several hospitals have shown that it keeps moist and inodorous for sixteen or eighteen hours, that it does not ferment, and that it is for the patient a clean and agreeable application. Its portability recommends it for use in army and navy service.

A Belligerent Professor.—Señor Varela, Professor of Physiology in the Medical School at Barcelona, Spain, was annoyed, recently, by hissing and other disturbances among the students, whereupon he drew a loaded revolver and threatened to fire on the class. A general stampede took place, in the midst of which the rector seized and disarmed the warlike teacher, and conducted him off the scene.

A New Medical College.—A Medical College has been organized in Milwaukee, and it was expected that the formal opening would take place on the 15th ult. A number of students have already been secured. This is the first medical school established in Wisconsin.

Alumni Association of the College of Physicians and Surgeons.—At the meeting, held February 24th, the following officers were elected for the ensuing year: President, Alfred S. Purdy; Vice-President, William H. Draper; Secretary, George Bayles; Assistant Secretary, John N. Beekman; Treasurer, Timothy M. Cheesman; Trustees, Robert A. Barry, D. Tilden Brown, Gurdon Buck, Henry C. Eno, Thomas E. Satterthwaite. Dr. Robert F. Weir and Dr. A. Brayton Ball resigned from the Committee on Prize Essays, and gave as a reason that the author of one of the papers to be considered by the Prize Committee had become known to them. It was agreed that the time for the examination of the essays should be extended to allow of the election of other gentlemen in their places.

The annual dinner of the Association took place at Delmonico's, on the evening of March 2d, and was largely attended.

Reports on Laryngology.—We shall furnish in our next issue a full report on Laryngology from the 1st of January, 1875, to date; and thereafter regular quarterly reports of all that is new in that important branch of medicine. Dr. George M. Lefferts has kindly undertaken the preparation of these reports, which will appear, after the first report, in the numbers for July, October, etc. Dr. Lefferts is devoting his attention exclusively to this class of diseases, and promises a complete record, in condensed form, with bibliographical notes, of all that is of interest or value in his department.

Prize Essays.—Dr. J. D. Jackson, chairman of the committee of the American Medical Association on prize essays, is seeking health this winter in Florida, and fears that he will not be able to return in time to attend to the duties of his office. He therefore requests that papers written for the inspection of the committee be forwarded to Dr. L. P. Yandell, Louisville, Ky.

Another Death from Chloroform.—In the *Lancet* of February 13th, C. E. Smith, M. D., surgeon-major, reports the death from chloroform of a strong, healthy young man, belonging to the Royal Artillery. The operation for which the anæsthetic was administered was the removal of a toe. Less than four drachms had been given, and the operation was completed, when the pulse ceased. Respiration continued a little longer, but the patient died, though Nélaton's method, galvanism, etc., were thoroughly employed.

Society of the Alumni of the Medical Department of the University of Pennsylvania.—At the annual election, held March 11th, the following officers were elected: President, George B. Wood, M. D.; Vice-Presidents, Joseph Carson, M. D., Isaac Hays, M. D., Meredith Clymer, M. D., J. L. Atlee, M. D.; Corresponding Secretary, R. A. Cleeman, M. D.; Treasurer, Robert E. Rogers, M. D.; Orator for 1876, Meredith Clymer, M. D.

A Flourishing Medical Society.—The list of members of the Royal Society of Medical Sciences, of Brussels, shows the following curious proportion of home and foreign members: actual members, 25; honorary members, 50; corresponding members in Belgium, 89; corresponding members in foreign countries, 220.

New York State Inebriate Asylum.—Drs. John J. Orton, of Binghamton, and William C. Wey, of Elmira, and Benjamin F. Bruce, of Lenox, have been appointed by the Legislature to be managers of the State Inebriate Asylum at Binghamton.

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from February 14 *to March* 13, 1875.

Smith, A. K., Surgeon.—Assigned to duty as Post-Surgeon at Fort Hays, Kansas. S. O. 21, Department of the Missouri, February 18, 1875.

Knickerbocker, B., Assistant Surgeon.—Granted leave of absence for one month on surgeon's certificate of disability, with permission to leave the limits of the Department. S. O. 10, Department of the Columbia, January 30, 1875.

O'Reilly, R. M., Assistant Surgeon.—Granted leave of absence for twenty days. S. O. 28, Department of the Platte, March 5, 1875.

Bentley, Edwin, Assistant Surgeon.—Granted leave of absence for one year. S. O. 28, A. G. O., February 16, 1875.

White, R. H., Assistant Surgeon.—Granted leave of absence for two months, with permission to apply for an extension of six months. S. O. 41, Military Division of the Atlantic, February 26, 1875.

Yeomans, A. A., Assistant Surgeon.—At the expiration of his present leave of absence, to report in person to the commanding officer at Newport Barracks, Ky., for duty. S. O. 31, A. G. O., February 23, 1875.

Munn, C. E., Assistant Surgeon.—To report in person to the President of the Army Medical Board, New York City, for examination for promotion, and, upon its completion, return to his proper station. S. O. 39, A. G. O., March 8, 1875.

Adair, G. W., Assistant Surgeon.—When relieved by Assistant-Surgeon Yeomans, to report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 31, C. S., A. G. O.

Obituary.

Dr. John McClelland, whose death occurred in this city February 20th, was born April 23, 1805. He graduated at the College of Physicians and Surgeons in 1838, was appointed physician in charge of the New York Lunatic Asylum from June 10, 1839, to September 22, 1843, when his place was made vacant, and he commenced the practice of medicine in Bayard Street. The year following he was appointed Resident Physician of Bellevue Hospital, which position he held for one year. In 1846 he resumed private practice, and continued an active and respected member of his profession until the time of his death.

Dr. Thomas Leaming Caldwell, for nearly forty years in active practice in Louisville, died near that city, on the 20th of January. He was the only son of the late Dr. Chas. Caldwell. He was educated at Harvard, and took his medical degree at Transylvania. Shortly after graduating, in 1836, he settled in Louisville, where he had since constantly resided, except during the years of the Mexican War, when he was surgeon of the Louisville Legion, under Colonel Ormsby. He was long connected with the Louisville Marine Hospital as visiting or consulting surgeon, and for a number of years was a private teacher of medicine.

Dr. Charles B. Coventry, of Utica, Oneida County, N. Y., died in February last, aged seventy-four years. Dr. Coventry graduated at the Fairfield Medical College in 1825, and in 1828 was appointed Lecturer on Materia Medica in the Berkshire School at Pittsfield, and subsequently filled the chair of Obstetrics in the Geneva College. In 1846 he was appointed to the chair of Physiology and Medical Jurisprudence in the Buffalo Medical College. In 1854 he was elected President of the Medical Society of the State of New York.

Dr. Robert Henry Cabell died in Baltimore, February 20th, aged seventy-six years. He was for many years an eminent physician in Richmond, and belonged to one of the oldest families of Virginia. He was a brother-in-law of General Winfield Scott, and a near relative of ex-Governor Cabell and Hon. William C. Rives, formerly United States minister to France.

Dr. William Sutherland, Emeritus Professor of Chemistry in McGill University, Montreal, died February 9th, in the sixtieth year of his age. He occupied a prominent and influential position in the profession in Canada, and was one of the founders of the Montreal School of Practical Medicine and Surgery.

Dr. John Lizars Lizars, M. R. C. S., of the Faculty of the Toronto University, died in Toronto, March 6th, aged forty-two years. He was a nephew of the celebrated surgeon of the same name, of Edinburgh.

Dr. Louis Remy Aubert-Roche, formerly chief medical officer to the Suez Canal Company, during its construction, and celebrated as an epidemiologist, died in January, in his sixty-fifth year.

The death is announced of Dr. Carlo Burci, Professor of Clinical Surgery in Florence, and Senator of the Kingdom of Italy.

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Original Communications.

Art. I.—*Bronchocele.*[1] By S. B. St. John, M. D., New York.

Goitre is a local affection of the thyroid gland. The thyroid gland, weighing from one to two ounces, situated in front of the trachea, just above the sternal notch, has always been a puzzle to physiologists. Belonging as it does to the so-called ductless glands, and hence affording no secretion to furnish a key to the problem, yet supplied with blood in far larger amount than is requisite for the nourishment of its own tissues, being essentially glandular in structure, and capable of modifying largely (if reasoning by analogy be worth any thing) the fluids which pass through it, it has as yet escaped any thing more conclusive than shrewd theories as to its true office. Some of these theories will be alluded to shortly.

The peculiar shape of the normal gland, with its lateral lobes and connecting isthmus, is so familiar that I shall not stop to describe it, but I call attention to the fact noted by Virchow, that the isthmus is sometimes much reduced in size, covering only one ring of the trachea instead of three, and in several cases has been found wholly wanting. The existence, at times, of accessory thyroids analogous to the little spleens that are sometimes found in connection with the main organ, is mentioned by the same author; while Hyrtl, in his "Typographische Anatomie," lays stress upon the frequency of the "processus pyramidalis" extending from the isthmus upward, and generally a little to the left, even as far as the hyoid bone. Stoerck says the variety of goitre known as substernal is from enlargement of an *inferior* processus pyramidalis. Luschka found the isthmus and left lobe absent in one case, and Burns found the isthmus behind the trachea, between this and the œsophagus; while Hasse gives an instance where the trachea was completely surrounded by the thyroid body, which caused death by strangulation.

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[1] Read before the New York Laryngological Society, March 19, 1875.

These deviations from the normal figure, which are ordinarily mere curiosities, become of clinical importance when the gland is the seat of pathological processes, especially those involving considerable enlargement.

The vascular supply of the organ, far beyond the requirements of its tissues, as we have remarked, is received from four large arteries—the two superior thyroid from the external carotid, and the two inferior thyroid from the thyroid axis, assisted often, though not constantly, by a fifth—the median thyroid from the innominate, or arch of the aorta. Mayer reckons that the thyroid body receives as much blood as the forearm, and Soemmering says that the arteries of the thyroid are eight times as large as those of the brain, considered relatively to the weight of the respective organs. At all events, the organ is so vascular that incisions made into it by suicides have proved fatal from hæmorrhage, showing that the tendency which proves so troublesome to operative interference in pathological conditions is not wholly produced by the abnormal processes.

This rich vascular supply has given rise to the speculation whether the thyroid may not be a reservoir—or escape-valve—to prevent dangerous congestion of the brain under sudden emergencies. Hyrtl says that there is always an enlargement of the organ at night—when the brain is admitted to be in a more or less anæmic condition—and that this may be proved by the discomfort arising from a snugly-fitting neck-band to the night-shirt, which tightens over the swelling gland.

There seems to be a generally acknowledged relation between temporary thyroid enlargements and the uterine functions. Thus, in some women the menstrual periods are marked by a swelling, apparently an acute hyperæmia, of the organ, while in others the same appearance coincides with pregnancy, and the ingenious theory has been advanced that, by pressing on the carotid arteries during pregnancy, it prevents dangerous congestion of the brain, invited by impeded venous return. Luton says it is frequent at the menopause.

This sketch of the normal thyroid body would be very imperfect without a few words as to its relations with important organs, since upon these relations depend most of the dangers which attend its enlargements. It will suffice to call attention to the carotid arteries, internal jugular veins, and pneumogastric nerve running behind the lateral lobes, to the trachea and œsophagus lying behind the isthmus, and to the rigid bony arch of the clavicles and sternum, beneath which an enlarged portion may extend, causing pressure upon the organs contained in the mediastinal spaces. Its relation to the sterno-mastoid muscles, which overlie the lateral lobes, is also to be noted, as, in some cases of enlargement of the gland, these muscles have seemed to increase pressure upon the trachea by their resistance to the outward development, and have even been divided for the relief of the dyspnœa arising therefrom.

Benign enlargements of the thyroid have received the names goitre, bronchocele, struma, Derbyshire neck, etc. Of these, the name goitre (from *guttur*) seems the least objectionable, since it is not absolutely false, like bronchocele, nor does it commit to a theory as to diathesis, like struma. The term indicating its prevalence in a particular locality in England must of necessity have only a local and unprofessional field. If a new name is wanted which shall mean something, and yet shall not commit to a theory, I would suggest the term *thyrocele.*

Although goitre appears under an extensive variety of forms, they are all reducible to one pathological deviation from the normal condition, and we owe this important simplification to Virchow, who has shown that they may all be regarded as hypertrophy or hyperplasia of the normal gland-elements, and that the differences arise partly from the different degrees of implication of the different normal elements, and partly from secondary processes which have in some degree the character of retrograde metamorphosis.

Emmert stoutly avers that only in rare cases is the whole gland implicated, but often only isolated portions which lie so entirely on the edge of the gland that they scarcely seem to belong to it, while the deviation of the affected part from the normal size and structure may seem so great, at a superficial observation, as to mask the fact that a large part of the gland is unaffected by disease. Stoerck says, "A locally hypertrophied part may be separated from the main body of the gland, e. g., by the development of a cyst, and thus appear as a wandering goitre."

Goitre is admitted to be most frequent in females. This we should of course expect, from the apparent connection with the uterine functions.

In forty-eight cases by Luton, forty-five were in women, and he says there is an original predominance of the thyroid in the female sex. The fact that in women the neck is more uncovered as a rule than in men has been insisted on by some writers.

Authors do not entirely agree as to the *age* most favorable for it. Virchow considers it most frequent in infancy and childhood, when the gland is proportionally more developed. A certain number of cases are on record of congenital goitre (Malgaigne, Simpson), in one case the goitre being so large as to prove an obstacle to parturition. That it is hereditary is quite probable, but extremely hard to prove, as the same endemic influences are almost always active in members of the same family; still, there are remarkable cases where several members of a family have had it without any endemic influence being apparent. According to Lumier, in cretins goitre generally appears about puberty, and tends to diminish and harden in later life.

Although generally of somewhat slow development, there are undoubted cases where it has appeared suddenly during violent exertion, e. g., case by Ludwig (*Berlin. klin. Woch.*), where it seemed to result from a violent paroxysm of coughing. In this case it reached the size of a child's head, but disappeared entirely the next day, and was considered to be an acute hyperæmia. Some authors have noticed a constant and considerable enlargement during the violent efforts of parturition, and have been led to consider it as a safety-valve for the circulation at this time. Cassan gives a case of suddenly-developed lateral goitre from lifting a weight.

As a result of endemic causes it is very frequent, but the exact nature of the causes is obscure.[1] The valleys of the Alps, notably that of the Rhone, the Pyrenees, Himalayas, and Andes, are all noticeable in this regard. The most prominent theories attribute it to the use of water holding salts of lime, use of snow-water, the effect of air in deep valleys receiving but little sunshine, possibly causing lack of ozone. One remarkable theory is a supposed absence of iodine in the air, suggested by the efficacy of iodine as a remedy, and advantage of sea-side residence. Testimony, however, goes to show that the disease occurs endemically in elevated as well as in lowly situations, in dry as well as in damp locations, in regions differing widely in their average temperatures, and that in some places, where the drinking-water is quite pure, it may be found in startling frequency. Even domestic animals suffer from it. In this country Gross says it is found in the mountain-regions of Vermont, New Hampshire, Connecticut, New York, Virginia, and Pennsylvania, but is uncommon in the Southern States, that it has occasionally been noticed among the aborigines, but is not common among them, while it is very rare in the negro race. In our Middle and Western States it is very frequent, in some places almost endemic. It has sometimes appeared in barracks as an epidemic, and has been ascribed to chilling by cold air, or by large draughts of cold water when heated. As exciting causes may be mentioned conditions which cause congestion in the vessels of the head and neck, such as embarrassment of respiration, e. g., with intense exertion, parturition, lifting heavy burdens, playing on wind instruments, or in lung-affections complicated with narrowing of the air-passages, e. g., catarrh, emphysema, tuberculosis, etc., also disturbances of the circulation in the lower half of the body, as in pregnancy, ascites, large tumors in the abdomen, etc., and congestion from cardiac hypertrophy.

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[1] Luton mentions a temporary form of goitre occurring in persons who often drink largely of cold water, or in those who pass suddenly from hot into cold climates, known as "goitre estival epidemique," which runs a rapid course and disappears with the disappearance of its causes. Supposed to be a form of thyroiditis, not acute or ever suppurating.

Some authors say the lymphatic temperament predisposes to it, and Bazin says the hypertrophy of the thyroid bears to scrofula the same relation that hypertrophy of the thymus does to syphilis.

Normal Anatomy.—The thyroid body consists essentially of round, closed follicles bound together by connective-tissue stroma into round or oval lobules. The follicles, according to Kölliker, are lined by a membrane, but, according to Peremeschko and others, there is no true membrane, but only a layer of condensed areolar tissue. They are furnished with a layer of polygonal, finely-granular epithelial cells, with single nuclei, and the cavity is filled with clear, somewhat viscid, and highly-albuminous fluid. The epithelial cells disintegrate soon after death. The stroma binding together the lobules is very strongly marked, and is continuous with the enveloping capsule. The gland is richly supplied with lymphatics and blood-vessels, and the arteries supplying it do not anastomose across the median line, as is very commonly supposed, but the hæmorrhage which comes sometimes from the isthmus when divided in the median line is due to the fact that branches from the right side pass into the left half, and *vice versa.* According to Stoerck, no adult has a normal thyroid, but to get normal thyroid tissue we must resort to newly-born animals.

Pathological Anatomy.—Virchow first established a definite pathology (*Pathologie der Geschwülste*) giving hypertrophy or hyperplasia of glandular elements as the basis of all the forms. The simple goitre (*struma glandulosa*, *parenchymatosa*, or *hyperplastica follicularis*) is marked by a growth of glandular elements strictly analogous to their normal growth by proliferation, and these new growths form protuberances upon the surface of the lobules, being generally soft, elastic, or even fluctuating, while at a later period they may become harder and circumscribed by thickening of their connective-tissue envelope, which when excessive gives rise to the *encapsulated glandular* variety.

The connective-tissue or fibrous goitre (*struma fibrosa*), first described by Albers, consists essentially in an increase of the interstitial connective tissue with decrease of glandular elements. Rokitansky believes this is always a secondary process set up by inflammation in a previously-existing simple goitre, and Virchow assents to this opinion. The glandular masses of the simple goitre pass out into the soft interstitial tissue, and reproduce new masses, while the interstitial tissue being irritated increases in volume and strangles a portion of the glandular growth, which therefore atrophies. A minor degree of the same process may account for the fluid which is often found in these masses, characterizing simple goitre. The lobulated appearance and feel of the fibrous goitre, together with its firm texture, might be predicated from its mode of formation.

The vascular form (*struma vasculosa*) is the remaining primary form, and, as its name implies, consists essentially in an increase of vessels. This increase is sometimes so marked that Virchow has given the name "struma aneurismaticum," but, as there is never any aneurismal sac, the name is misleading. This is by some subdivided into classes according as the veins or arteries are the more largely involved. This variety sometimes attains an immense size, and is characterized by rapid growth, pulsation, and sometimes by dark color. This is the variety generally occurring in pregnant and non-menstruating women, also in exophthalmic goitre. The remaining forms, the *cystic*, *colloid*, *osseous*, *chalky*, and *amyloid* varieties, are all the results of secondary changes occurring in some one of these forms, usually the simple or follicular goitre.

The cystic form may occur from one of two processes: either from an excessive secretion of the cells lining a group of follicles which are somewhat isolated, or by the degeneration of the glandular elements themselves, which is probably the most frequent mode. It is always found associated with some hypertrophy of the fibrous stroma, giving it a capsule of considerable density, and very possibly the partial strangulation of the nutrient vessels, from this increase of connective tissue at the base of the mass, leads to the degeneration, though I do not find this point made by any pathologist. The colloid form (*struma gelatinosa*) is considered by Frey to be a senile degeneration or retrograde metamorphosis; but Virchow thinks it is a modification of albumen and a secretion of the epithelium of the follicles. These two forms (cystic and colloid) furnish the largest goitres, as a rule. The contents of the cysts, if large, are rich in albumen; if small, have little or none. Sometimes cholesterine is found. Hard nodes, which are sometimes found, are thought by Virchow to be due to deposit of calcareous salts in fibrous tissue, and not to true ossification. Luton says: "There is a form of hypertrophy which is increase of mass without any change of structure; but I do not find this view supported, and I incline to doubt it."

Mackenzie gives, as his classification of goitre—simple, fibrous, cystic, fibro-cystic, fibro-nodular, and vascular. The two varieties which he introduces of fibro-cystic and fibro-nodular, I think superfluous, although they undoubtedly exist (indeed, the chances are that the others rarely, if ever, exist separately), but, as the others almost necessitate these, I think it judicious to preserve them, and take the latter for granted. Unquestionably different parts of the gland may be the seat of different kinds of goitre at the same time.

Symptoms.—Entirely local, and as a rule the subjects of goitre are otherwise in good condition (if we except cretins); in mild degree it is even considered as an ornament, giving a graceful fullness to the neck. The size varies from this slight increase up to ten pounds in weight, one having been recorded which hung down to the ensiform cartilage.

The shape may be symmetrical, or only one lobe or even a part of a lobe be affected. It is generally soft at first, becoming hard if fibrous hypertrophy predominates, or it may soften to fluctuation if cystic degeneration supervenes. As a rule, it does not implicate the skin. The inconveniences accompanying it come mainly from pressure-effects upon surrounding structures, and are not always proportional to the size of the tumor. There is sometimes alteration of voice, hoarseness, described by Luton as a kind of croaking, interrupted by inspiration-whistle, and often dyspnœa, which generally appears suddenly; and there seems to be a question whether these paroxysmal attacks (goitre-asthma) can be explained wholly on the theory of swelling from an acute catarrh, or whether we must not admit a nervous element.

On this point Stoerck's ideas are interesting. He says it does not come from pressure on the trachea, but on the pneumogastric or recurrent nerves, giving *sub*-paresis of the lateral crico-arytenoid muscles. Phonation is sometimes labored, and sometimes there is noisy inspiration. There is nothing to see with the laryngoscope. The dyspnœa is paradoxical, for the glottis is abnormally *open;* it may come from nervous influence, or from mucus getting past the glottis, but more probably from the glottis not closing, and thus allowing the bronchial muscles to force the air on into the lungs beyond, since it is relieved by stimulating the muscles to close the glottis. Dysphagia is sometimes present, and has been found in such a degree as to call for operation from this cause alone. Symptoms have been noticed indicating pressure upon filaments of the sympathetic nerve, e. g., pallor, pupillary changes, dimness of vision, etc., on the affected side. Also some pointing to pressure on the bronchial plexus, such as numbness and even paralysis in the affected arm. Quite commonly we have pressure upon the veins of the neck, giving livid expression, drowsiness, and dizziness. The symptoms of pressure on the trachea are more marked if a goitre develop downward, passing behind the clavicle and sternum, and in this case the tumor may be quite small. In the neck the tumor meets muscular resistance from the sterno-mastoid muscles, or it may force its way behind the trachea, or even grasp the trachea between the two lateral lobes. The pressure upon the trachea gives rise to tracheo-stenosis, which may be regarded as the connecting link between the disease in question and the science of laryngology. Tracheo-stenosis is a narrowing of the calibre of the trachea, and may take place at any point, but is most frequent at the upper part. Türck gives three cases in which it was just beneath the cricoid cartilage, and lateral, two in which it was bilateral and oblique, one median and posterior, and one median and anterior. The tracheostenosis gives the trachea as seen in the laryngeal mirror the shape of the letter D, the straight side corresponding to the encroaching tumor, when this process is unilateral; but, if the pressure is from both sides, it becomes a long oval, with antero-posterior axis.

Bonnet gives, as additional symptoms of the substernal variety, engorgement of the arm and flattening of the abdomen during inspiration, depending on pressure upon the trachea, brachial plexus, inferior laryngeal nerve and phrenic nerve, and says that the dyspnœa tends to become steadily worse, since the partial vacuum caused by the obstruction to the entrance of air pushes the encroaching tumor still farther down, and increases the pressure.

Any goitre which causes considerable pressure upon the jugular veins will cause congestion of the laryngeal mucous membrane, which may be recognized by the laryngoscope, the arytenoid cartilages showing this the most plainly, and this congestion irritates and causes the patient continually to clear his throat. This might be a useful means of diagnosis in the small substernal variety.

Differential Diagnosis.—Goitre must be diagnosed from abscess, tracheocele, enlarged laryngeal bursa, enlarged lymphatic glands, and aneurism of the carotid or supra-thyroid artery. Acute abscess is easily eliminated by its infrequency, and by the absence of acute symptoms. Chronic abscess, though harder to differentiate, is very infrequent, and is generally accompanied by signs of disease of the cervical vertebræ. There is sometimes a bursa over the thyroid cartilage, whose enlargement might lead to error, but its rarity, and the locality, which (according to Hamilton) is always above the gland, will serve to throw this out. Enlarged glands, which are quite common, may be confounded with enlargement of the lateral lobe, but the history, the hardness of the swelling, its tendency to suppurate, the presence of the strumous diathesis, and existence of similar enlargements elsewhere, are to decide the point. A goitre (especially lateral) receives pulsation from the carotid artery, but lacks expansive pulsation (unless of the purely vascular variety), and rarely has any bruit; also is irreducible by pressure, and generally is found to have its point of attachment nearer the median line than an aneurism. I call attention here to the fact that, if blood be drawn by the exploring trocar, it does not decide in favor of aneurism, since in many cases of cystic degeneration there is a tendency to hæmorrhage into the cyst. One sign of goitre has been strenuously insisted upon by surgeons, viz., that of following the larynx in deglutition, and I believe it to be a valuable one (especially positively); but Mackenzie lays little stress upon it, saying that other tumors of the neck are apt to form attachments to the trachea, and that, if the goitre is large, you cannot see whether there is movement or not. In this view he is supported by Lücke.

Tracheocele, or hernia of the trachea, comes nearer to a true bronchocele (etymologically) than goitre, but can scarcely be mistaken for goitre, from its reducibility, its resonance on percussion, yielding feel, etc.

To distinguish between the different varieties of goitre is a more difficult task, yet a most necessary one if we would treat it on rational principles, for there can be no question that much of the non-success in the treatment of this affection is due to proceeding upon a stereotyped plan.

The *follicular* variety may be known by its soft feel, by its limited extent, being confined to lobes or lobules, and (if of long standing) by softening in spots to fluctuation, and therapeutically by its susceptibility to iodine. It affects more frequently the lateral lobes.

The *fibrous* form is *hard* and nodular, but has generally been softer at an earlier stage.[1] The *vascular* form has a soft feel, often pulsates expansively, may have aneurismal thrill, while the varicose variety may show the enlarged veins. The cystic and colloid are the largest variety, the colloid resembling the follicular, but softer, more symmetrical, of slower development, and sometimes giving crepitation, while the cystic gives fluctuation. Exploratory puncture gives albuminous fluid, and it may be unilateral.

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[1] The nodular feel alone does not necessarily imply contracted fibrous tissue, for contiguous, small, local glandular hypertrophies often give rise to it.

Treatment.—First, why not leave it alone? If any degree of dyspnœa, dysphagia, or any other distressing pressure-effect is present, or even any serious amount of deformity, the question is superfluous, and yet they may heal spontaneously (case of our own). Gürlt cites cases of cystic goitres which healed through inflammation, depositing fibrine. Cystic goitres, if left alone, may get well by opening spontaneously and suppurating. Langenbeck's case of this kind was the size of a child's head, and gave vent to half a wash-basinful of reddish, thin, flocculent fluid. They may, however, break internally, as in a case by Paget, where a cyst broke into the pharynx; and by Brachman, where it opened into the larynx; also a curious case by Heidenreich, where the cyst burst into the areolar tissue, and caused death by suffocation from pressure.

Treatment may be hygienic, medical, or surgical. By hygienic treatment we mean change of residence, especially from mountains to sea-coast; possibly there may be some iodine in sea-air which favors cure.

Medical Treatment. Iodine internally.—This drug has held a front rank from the days of burnt sponge to the present time. It is a specific in simple glandular hypertrophy, but is of no use in the fibrous or cystic form, and of modified use in the vascular form. Lücke finds that "in pulsating goitres which can be nearly reduced by pressure, but quickly return, iodine and potassium iodide produce wonderful results;" and Schwalbe finds "iodine and electrolysis make the vessels shrink and partly atrophy." Iodine may be used as Lugol's solution or as Gross advises, in combination with opium or hyoscyamus, or by iodizing the air of the room by iodine in a perforated box, as recommended by Bryant. The old plan of wearing a bag of burnt sponge around the neck was a form of inhaling iodine. Iodized alcohol may be burned. The condition known as iodism is, according to Rilliet, especially apt to follow *small*, frequent doses, such as one centigramme per day. The symptoms are, emaciation without loss of appetite and nervous palpitation, and Stoerck mentions severe occipital headache, and sometimes pain in lower jaw and teeth. Virchow and Lebert think these symptoms may be due to absorption of the detritus of the tumor, as they have been noticed during rapid diminution of the goitre. A good form of iodine, where anæmia exists, is iodide of iron, and iodoform has been used with success by Glover, ten to thirteen centigrammes per day. Fabre practised rubbing in on the tongue one part iodide of potassium, and two parts liquorice-powder, which was so efficacious as to require great caution to prevent iodism.

Topical treatment may be antiphlogistic, such as leeches, cold purgatives, as recommended by Bach, but these means are, in most hands, unsatisfactory, and the patients cannot easily be induced to give them a thorough trial. Better results may be expected from strong counter-irritation. Mackenzie uses blistering fluid. Tincture of iodine is an almost universal external application, but Bryant makes the very rational objection that the first application hardens the skin and impairs, if it does not destroy, its absorbent power. He uses instead ointment of iodide of ammonium. Gross advises a combination of iodine and mercurial ointment. An East Indian surgeon, Dr. Monatt, in 1857, claims to have cured thousands by the use of ung. hyd. bin. (grs. x. ad ℥j) well rubbed in, and the throat then held up to the rays of the sun for an hour or two, or until it could not be borne longer, when a second application was made, and a cure effected. His claims of success are almost absurd, but I believe the method worth a trial. An American surgeon has obtained excellent results by constant pressure by strapping, the straps passing over the shoulder and under the opposite arm, but his practice does not seem to have been extensively followed.

Surgical Treatment.—This may be classified in the order of the severity of the procedures, into puncture (with or without injection of stimulating fluid), incision, seton, cauterization, division of sterno-thyroid muscles, ligature of thyroid arteries, ligature *en masse* or subcutaneously, and extirpation, to which may be added, as the newest procedure, electrolysis.

Puncture is generally considered as a palliative rather than remedial measure, and it is not entirely free from danger, as the cyst (cystic cases being those adopted for this method) is apt to refill with blood, which Bach says is due to the fact that vessels sometimes project from the cyst-walls or ramify in them, and when the support of the fluid is withdrawn they give way. In Guy's Hospital a patient died from hæmorrhage after puncture. In rare cases, however, this may effect a cure, but we are not warranted in anticipating such a result. It is, however, a valuable means of diagnosis, and may be used for the temporary relief of dyspnœa in suitable cases.

Injection of stimulating fluid through the puncture is by far the best treatment for cysts with thin, collapsing walls, and which have not hæmorrhagic contents. This plan, established by Velpeau in 1836, using one part iodine to two of water, has been adopted by almost all surgeons of note. Langenbeck uses one part of iodine to three of potassium iodide to twenty-four of water. Von Pitha uses Lugol's solution. Billroth, one drachm of iodine dissolved in ether to one ounce of absolute alcohol. Birkett, pure compound tincture of iodine of British Pharmacopœia. The contents of the cyst should be evacuated somewhat slowly to avoid hæmorrhage, the injection made and allowed to remain a few minutes (some, as Billroth, do not withdraw it), and some use compression afterward to approximate the cyst-walls. The cyst generally refills, and does not begin to shrink until from one to four weeks afterward. The reaction is usually only moderate. Billroth believes the *rationale* of the cure to be the same as in hydrocele, but it seems to me that there is not similarity enough between the serous tunica vaginalis and the lining of a thyroid cyst to predicate a complete analogy upon, and that the process is more inflammatory than the former. In twenty cases given by Billroth, treated by injection, eighteen were cured. Twenty-four cases by Gürlt give twenty-three cures. Mackenzie aims at converting the cyst into a chronic abscess, and uses accordingly perchloride of iron (ʒ ij ad ℥ j) as an injection. He taps the cyst at its most dependent part, injects about one drachm of the solution, plugs the canula, and leaves it for three days, when he lets out the injection and applies a poultice. The canula is allowed to remain until the discharge becomes limited; one injection generally suffices, and the treatment lasts from three to four months. In fibro-cystic cases he treats the cysts in this way, and the fibrous parts with subcutaneous injections of iodine. He reports seventy cases treated in this way, and sixty-four cures. One case died suddenly, ascribed by Mackenzie to the injection entering a vein. Injections of the parenchyma with a hypodermic syringe, introduced by Luton, of Rheims, in 1863, using tincture iodine, causes pain at first, which soon disappears, the goitre swells, becomes somewhat harder, and the patient tastes iodine in the mouth. The febrile reaction is slight, and the effect is often not apparent till after several months, hence the injections should not be too often repeated. Mackenzie injects thirty drops of compound tincture of iodine, of the British Pharmacopœia, once a week for two or three weeks, then once in two weeks. Schwalbe has noticed pain along tract of nerves, auricularis magnus after injection, and sometimes cough, dysphagia, and vomiting. Lücke finds strong solutions of iodide of potassium do not do so well as iodine. Schwalbe thinks the success is due to the alcohol in the tincture, and has used alcohol alone, as has Stoerck (ʒj to ʒij at a time), with equally good results. Kocher differs from Stoerck, who maintains that injections do best in the follicular hyperplasia (struma follicularis mollis of Virchow), for in these cases he says the connective tissue is so slight that injections rather destroy the cells and cause softening, than cause increase of connective tissue. He thinks the best cases for the injection treatment are the struma hyperplastica, where the increase of connective tissue in follicles is *pari passu*. In vascular goitre Stoerck thinks injections produce too great reaction.

To sum up, we may say that injections are useful not in soft follicular, colloid, vascular, nor hard fibrous goitre, but in the forms which are true hypertrophies, and which are of medium consistency. Mackenzie claims, however, to have used them with success even in the hard fibrous form, giving sixteen cases, and eleven cures, with four improved. The method is sometimes followed by unpleasant consequences; thus: Lücke got suppuration after a thirteenth injection, and had one fatal case; Schwalbe got symptoms of formication in the arm and leg, partial loss of consciousness, facial paralysis and convulsions, the patient dying in twenty minutes from the time of injection. He thinks the injection may have entered a vein and formed an embolus, but that, more probably, there was some concurrent brain-affection. On the whole, however, there is a great success and slight danger. Lücke warns to be careful lest swelling cause dyspnœa, and to use a small amount of fluid, and apply ice in case dyspnœa occurs.

Treatment by *incision* is available only for the cystic variety. In this plan the sac is opened, and the contents allowed to escape quite slowly, so as to avoid hæmorrhage. The incision may afterward be enlarged, and a strip of lint laid in.

Stromeyer gives seventeen cases, all successful; Gürlt, thirty-six cases, thirty-four cures. Von Bruns and Von Chelins pass sutures through the edge of the cyst and drag it up to the surface. Incision seems best adapted to cases of cysts having resisting walls, or which are suppurating. Billroth gives eight cases, and two deaths (pyæmia and septicæmia). Hæmorrhage, tetanus (from injection of weak solution of chloride of zinc into wound), and entrance of air into a vein, are all on record as causes of death from this operation.

The operation by use of the *seton* has been extensively employed, but is not now, I believe, strongly recommended by any one. Copious hæmorrhage is apt to ensue (case of Sands at Bellevue Hospital, quoted by Hamilton), and we may even have entrance of air into a vein (case by Erichsen).

Cauterization is practised mainly by the use of caustic pastes. Lücke speaks of chloride-of-zinc paste, but he says that, if you do not use the paste very strong, you accomplish nothing, and, if you do use it strong, it is too dangerous an agent to apply in the neighborhood of such large blood-vessels and important nerves. Gürlt gives twelve cases—eleven cures. Bonnet uses it to excite adhesive inflammation, to secure a substernal goitre after he has dragged it up from beneath the sternum, and fastened it temporarily by needles. The division of the sterno-thyroid muscles was practised by Liston with temporary benefit, and no unpleasant consequence. Hayes repeated this in a large goitre, with immediate and permanent relief to dyspnœa. Hamilton's operation did not relieve the symptoms. It is not a severe operation, and deserves a trial in cases of large goitre, with tension of these muscles.

Ligature of Thyroid Arteries.—The value of this procedure depends on the position of the enlargement. The superior thyroid supplies the superior and anterior parts of the gland, the inferior the inferior and posterior parts. If, then, the goitre is plainly developed from the superior and anterior parts, the ligature of the superior thyroid will probably do good. According to Hyrtl, these arteries do not anastomose freely; if they do, the operation is irrational. Dr. Welch, in a very fine recent thesis on goitre, has collected the following cases of ligature: right superior thyroid, six; left superior, eight; both superiors, nine; one superior thyroid (not stated which), eleven; left superior and inferior, one; both superiors and left inferior, one; common carotid, one: thirty-seven in all, with the following results: diminution of tumor, twenty-two; no diminution, eight; death from operation, six (one, hospital gangrene; one, inflammatory reaction; one, repeated secondary hæmorrhage, on fourth day; one from hæmorrhage into tumor causing suffocation). Dr. Welch concluded, from these cases, that the best results followed ligature of both superior thyroids, especially when combined with ligature of left inferior thyroid. This method is applicable to vascular goitres which resist iodine. Ligature *en masse* has the support of Liston, who says: "If there is great dyspnœa, and it is increasing, you may be warranted in taking away the enlarged portion of the gland, and you may do it with safety by exposing the tumor, dissecting off the integuments, and passing strong needles with ligatures, and tying them;" he says he has done this over and over again. The main danger is from secondary hæmorrhage, when the tumor sloughs, and there is risk from pyæmia, etc. The *immediate* effect of tightening the ligature is said to be increase of the dyspnœa. Velpeau recommends it only as the last step in an enucleation, and says the tumor should be excised in front of the ligature, and not left to slough. Ligature *en masse* may be subcutaneous, the ligature passing from puncture to puncture, and this has the advantage of leaving the vessels of the skin to nourish the tumor, which may, perhaps, not undergo gangrene.

Extirpation with the Knife.—This operation is entirely condemned by some good surgeons. Liston says, "The operation is attended with such risks—with so absolute a certainty almost of fatal results—as not to be warranted under any circumstances, far less for removal of deformity." Skey says: "The question has been mooted and even proposed in cases of great enlargement, or of malignant disease; but, in either case, it is, in my opinion, inadmissible." Gross says: "If a surgeon should be so adventurous or foolhardy as to undertake the enterprise, I shall not envy him his feelings while engaged in the performance of it, or after he has completed it, should he be so fortunate as to do so. Every step he takes will be environed with difficulty, every stroke of his knife will be followed by a torrent of blood, and lucky will it be for him if his victim lives long enough to enable him to finish his horrid butchery. Whether, then, we view this operation in relation to the difficulties which must necessarily attend its execution, or with reference to the severity of the subsequent inflammation, it is equally deserving of rebuke and condemnation; and no honest and sensible surgeon, it seems to me, would engage in it" (1864).

I need hardly say that such wholesale denunciation should meet a hearty rebuke at the hands of American surgeons, for the operation is now recognized as a legitimate one in certain cases where life is threatened, and the statistics collected by Dr. Welch show only twenty-five per cent. of deaths, of which more than one-half are due to ordinary causes, such as may complicate any great operation—only about ten per cent. being from hæmorrhage. Gürlt's table gives twenty cases, and eighteen cures, and one death. The operation thus shows a better record than that of ovariotomy, whose legitimacy is unquestioned. With such a record, I hold that no one would have a right at the present day to indulge in the use of language like that quoted. I do not propose to burden this paper with the details of this operation, but I think it right to allude to Dr. Green's method as being novel and daring. It consists in enucleating the tumor, regardless of hæmorrhage, as quickly as possible, and tying the pedicle containing the nutrient arteries, and is a well-planned, and, in his hands, a skillfully and coolly executed operation which reflects great credit on its author, and, through him, on American surgery.

The method of treating goitre by electrolysis certainly deserves a place. Its advocates, like electricians generally, admit no limit to its power. Althaus says: "All cases of bronchocele, however large, may be cured by electrolysis, if the treatment is continued for a sufficient length of time. The negative pole is introduced into the tumor, and the positive applied by a sponge-electrode in the neighborhood. The current should be passed five to fifteen minutes, and two or three times a week." The action is ascribed partly to the mechanical action of the nascent hydrogen in breaking up the tumor, and partly to the chemical action of the alkalies at the negative pole. Cohen gives four cases, of which two were successful, one discontinued treatment, and in the other the goitre disappeared, while the induced current was being used for paralysis of the vocal cord. In the first case iodine had failed; Beard and Rockwell give four cases: in the first, iodine had failed—twenty applications nearly discussed it; second, there was moderate reduction; third, external galvanization—twenty-eight applications removed it entirely; the fourth, of three years' standing, was cured in five weeks, using mild currents with puncture, and strong ones with external faradization. Beard and Rockwell explain the action by saying that the fluid is decomposed, and the walls of the cyst are stimulated to absorption; and they conclude that almost all goitres will diminish more or less, and generally during the first weeks of treatment. The method is perfectly harmless, so far as I am aware, and certainly merits a trial in cases where the tumor is merely a deformity, and does not compromise vital functions; especially if other harmless methods, such as iodine-treatment, etc., have failed.

A plan has been lately revived, by an English surgeon of note, for the relief of the dyspnœa in cases where one or both lateral lobes are considerably enlarged, without much implication of the isthmus; viz., division of the isthmus between ligatures, or even excision of a piece of the isthmus. Malgaigne practised incision of the isthmus, in 1851, for dyspnœa, but the child died from the combined effect of hæmorrhage and ensuing inflammation. I have not found any other allusion to this method.

This paper would hardly be complete without a brief allusion to exophthalmic goitre—to point out the means of excluding it—in our diagnosis. Exophthalmic goitre is generally of medium size and symmetrical (though sometimes more of the right lobe, as receiving more directly the impulse of the heart). An essential characteristic of it is alteration of size in connection with relations to pregnancy, menstruation, or mental conditions. It is essentially vascular in nature at first; after a time its structure may change, and the gland become harder, and may even atrophy. According to Charcot, pregnancy will sometimes suspend all the disagreeable symptoms. The general circulatory derangements and constitutional weaknesses make the diagnosis, as a rule, quite easy.

ART. II.—*Researches on the Action and Sounds of the Heart.*

By GEORGE PATON, M. D., Ontario.

WE investigated this subject by a series of experiments on the alligator terrapin—the American turtle[1]—during the highest temperature of the season, when the animal assumes the physiological condition of a warm-blooded animal. We removed a portion of the plastron or bone that covers the thorax, divided the muscles, carefully slit open the pericardium, and observed the action, and listened to the sounds of the heart. The heart beat at 36, 40, or 42 pulsations per minute, in some cases more; but, in general, 36 to 40, or 42 pulsations, were the highest attained—the animals, after the operation, continuing strong and vigorous, surviving for several days, and affording ample opportunities to observe the action and listen to the sounds of the heart. We distinctly perceived that, when the ventricle contracts, it sends the blood with an impulse into the aorta, distending its walls, and the aorta instantly reacts from its origin, closing the valves as it imparts its impulse to the wave; the parietes of the ventricle being still contracted, firm, and tense at the orifice of the aorta. Immediately on the impulse being observed in the aorta, the auricles contract and send the blood with an impulse into the ventricle, bringing it to the point of distention, exciting its contraction, the whole of the blood that enters the ventricle being propelled by contraction of the auricles.

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[1] Alligator terrapin (*Chelydra serpentina*).

We applied the stethoscope, carefully avoiding pressure, and distinctly ascertained that the first sound of the heart depends on the contraction of the ventricle and reaction of the aorta, and is heard most distinctly in the denuded heart at the origin of the aorta, over the sigmoid valves, and a little higher up the aorta, and is produced by the force with which the blood is propelled through the aortic foramen, and recoils against the valves, closing them as the distended aorta gives its impulse to the wave; the impulse of the aorta instantly succeeding that of the ventricle. The sound is dull and prolonged, abrupt in its termination as the valves close. The second sound, which closely follows the first, was clearly ascertained to depend on contraction of the auricles, and to be produced by the force with which the blood is impelled through the auriculo-ventricular foramen into the ventricle, being most distinctly heard at that point in the denuded heart. It is a short, sharp sound, and appears to be deeper seated than the first. The first sound ascends in the course of the blood-current along the aorta. But the second sound descends in the course of the blood from the auricle into the ventricle, and is heard in a lower position than the first. A longer interval elapses between the second and the first sound of the heart (that is, between the short and acute and the dull and prolonged sound), because the ventricle, on being brought to the point of distention, commences to contract with an impulse toward the aorta, and the sound is produced as the blood is propelled through that foramen, and the aorta reacts or pulsates. But the auricles, which have been refilling during the contraction of the ventricle and reaction of the aorta, commence to contract immediately after the pulsation is observed in the aorta, so that the short and acute sound quickly follows the dull and prolonged sound.

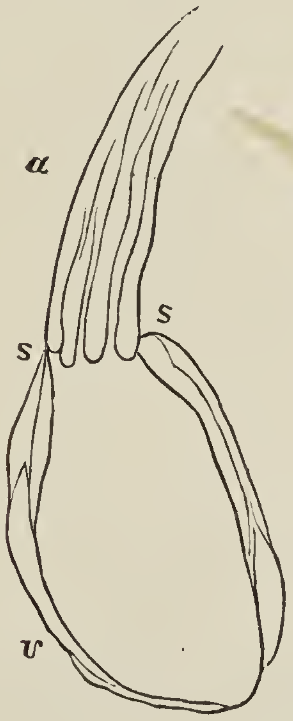
We determined these facts with the greatest care, listening to the sounds of the denuded heart in different turtles in succession, and on different occasions, when the temperature of the day was high, and the action of the heart maintained with vigor, and the sounds were often so clear and distinct, that we considered their cause to be placed beyond a doubt.

And we maintain that we have proceeded on sound physiological principles in the series of experiments that we instituted, and the results obtained. For the heart pulsates in precisely the same manner in cold as in warm-blooded animals, and physiologists are constantly in the habit of denuding the heart in the former to illustrate its action. And, if the principle on which the heart contracts and dilates be the same in both, the sounds produced ought equally to be relied on in the one class as in the other. But there is a great advantage obtained in denuding the heart in the turtle, from the circumstance that its action is little affected by the operation; whereas, in warm-blooded animals, as the dog and the ass, the operation of laying open the thorax, and denuding the heart, exerts a depressing influence on its action, and the fact that we require to employ artificial respiration to continue our investigations for any length of time, renders the movements of the heart weak and irregular, and the sounds indistinct. Hence the great difficulty that experimenters have had in arriving at an accurate knowledge of the cause of the sounds of the heart, by their experiments on warm-blooded animals.

We proceed, then, upon the principle that one general law obtains in the action of the heart in all vertebrated animals, and in the sounds produced.

When the auricles contract and propel the blood into the cavity of the ventricle, its walls are relaxing, and the wave enters with facility, bringing the ventricle to the point of distention, exciting its contraction. But when the ventricle contracts and propels the blood-wave into the aorta, imparting an impulse to the blood it contains, the force with which the wave enters distends the aorta, which, the moment the wave has entered, reacts with an energy equal to that by which it was distended. The propelling force imparted by the ventricle is partly exerted in the distention of the aorta, but, the moment the aorta reacts, it restores that force, closing the valves as it imparts its impulse, which completes the wave. There are two impulses, then, imparted in propelling the blood-wave from the ventricle along the arteries to their termination—the impulse of the ventricle and that of the aorta, which occur in rapid succession. The ventricle, in sending the blood-wave with force into the aorta, completes so much of the systole; and the distended aorta instantly reacting, closes the valves, which become the point of support to the recoiling of the blood, as the full systolic impulse is exerted on the wave. And it is chiefly at the origin of the aorta that the impetus or momentum is exerted that sends the blood-wave along the arteries with such velocity to their termination, communicating to the veins, at every beat of the heart, an amount of blood equal to that expelled by the ventricle—just as the piston in the working barrel, situated near the base of the pump, on the upward stroke being given, shuts the valves, and, in ascending to the limit of its range (eighteen inches), imparts an impetus to the whole of the fluid in the tube, which discharges at its farther extremity an amount equal to what has entered at the base. But the aorta is not a rigid and unyielding tube, but distensible and elastic; and, according to Hunter, an artery is more elastic at its origin, where it is united to the heart, than at its farther extremity; so, when the ventricle

FIG. 1.

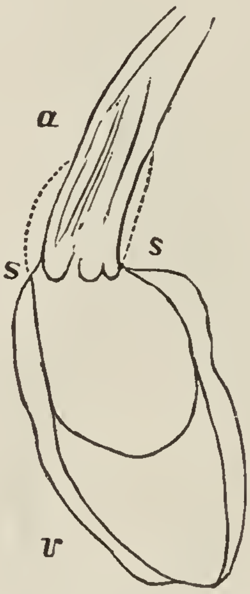


Let Fig. 1 represent the ventricle and aorta, a rigid and unyielding tube, and *s s* the valves. If the ventricle propelled the blood-wave along a rigid and unyielding tube, it would, at every contraction, displace an amount of fluid equal to that which it forces into the tube, viz., two ounces—that quantum being discharged at the farther extremity; and the valves placed at the origin of the tube would close as the ventricle commences to dilate, the blood or fluid falling back against them on the propelling force ceasing. The sigmoid valves, *s s*, are here closed in connection with the dilatation of the ventricle.

contracts and propels the blood-wave into and along the aorta, its walls yield to the force exerted, and are distended, but, the wave having entered, the aorta instantly reacts, and closes the valves in completing the impulse.

It would not be possible to propel a fluid in successive waves along a tube strongly elastic at the base, without closing the valves as the wave enters; for at that moment the distended walls react, and if the valves are not closed a part of the fluid is forced back, and only an imperfect wave is impelled onward. But, as the valves close on the immediate reaction of the walls, a full wave is forced along the tube. These facts establish the proposition that the distended aorta reacts, closing the valves in immediate connection with the contraction of the ventricle, as the full wave proceeds along the arteries.

Fig. 2.

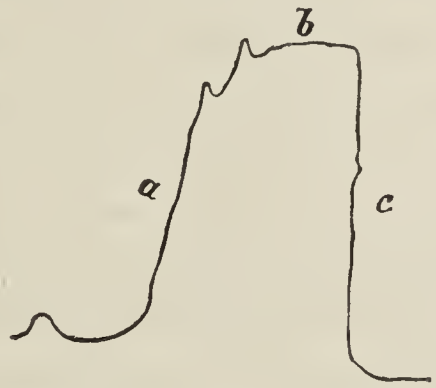


Let Fig. 2 represent the ventricle, and *a* the elastic aorta, *s s* the sigmoid valve.—When the ventricle propels the blood-wave into the aorta, which is strongly elastic at the base, in displacing the blood as the wave enters, the walls of the aorta are distended, and on the impulse of the ventricle being performed, the aorta reacts with force, closing the valves, and completes the wave. In this case the sigmoid valves, *s s*, are closed by the reaction of the aorta in connection with the ventricular systole.

But the ventricle does not merely propel the blood-wave into the aorta, distending its walls, but, from the energy with which it contracts, persists for a moment contracted at the orifice of the aorta, sustaining the part while the aorta reacts, closing the valves, and impels on the wave. Hence the ventricle is contracted when the aortic impulse is imparted, and the full pulse-wave produced; these two acts—of the ventricle and aorta—constituting one continued impulse, by which the blood is forced at every beat along the arteries to their termination. And from the attachment of the ventricle to the tendinous ring and fibrous tissue at the origin of the aorta, its persistent contraction may even more rapidly assist the reaction of the aorta, and its impulse on the wave.

The ventricle, in sending the blood into the aorta, imparts its impulse at once, whether it expels the whole or the greater part of its contents—when the action is rapid, the whole—and the blood does not fall back against the valves as in a rigid and unyielding tube, but the distended aorta starts up from its origin, closing the valves in exerting its impulse on the wave; and the first sound of the heart is produced as the blood is propelled through the aortic foramen, and the valves close.

FIG. 3.



Let Fig. 3 represent the movement of the right ventricle, as determined by the cardiograph.—*a*, the line of ascent or contraction of the ventricle; *b*, the plateau, during which the ventricle persists contracted, before the line of descent, *c*, or diastole, commences.

"La systole ventriculaire persiste un certain temps après que la ligne d'ascension a atteint son summum, comme le démontre le plateau très-accuse du trace (*b*) qui précède la ligne de déscente."—("Leçons Cliniques sur les Maladies du Cœur," par I. Bucquoy, Paris, 1873.)

The impulse of the aorta, then, closing the sigmoid valves, takes place in immediate connection with the ventricular contraction, and precedes by an appreciable instant the pulse at the wrist and extremities; the ventricle persisting contracted at the orifice of the aorta, when the aorta reacts, and the full blood-wave is forced along the arteries to their termination. Consequently, the sound produced by the closing of the aortic valves must be viewed in connection with the contraction of the ventricle, constituting the termination of the first sound of the heart.

And the view adopted by many physicians, that the second sound of the heart is produced by the elastic reaction of the waves of the aorta and large vessels near the heart, forcing the blood back against the sigmoid valves, and closing them during the diastole of the ventricle,[1] cannot be maintained, as it is contrary to the principle on which the action of the heart proceeds, there being nothing in the structure and action of the part to produce a back-stroke or retrograde movement of the blood at the moment. During the diastole of the ventricle, the walls of the aorta become soft and compressible in unison with those of the ventricle, and are unable to react upon the blood which they contain. It is only when the walls of the aorta are distended that they can react, and the whole reaction of the aorta is designed to advance the blood-wave along the arteries in connection with the impulse imparted by the ventricle; the valves being placed at its origin to enable the aorta to effect the movement of impelling the blood onward, and completing the wave.

We consider, then, that the aortic regurgitant murmur produced by hooking back a segment of the valves, or by incompetency of the valves arising from disease, cannot be considered to supplant the second sound of the heart. For this murmur commences prior to the occurrence of the second sound, being coeval with the full contraction of the ventricle, and the moment when the aorta reacts to complete the wave. But, instead of the blood in the distended aorta being impelled onward, a portion is forced back into the ventricle, opening up its walls, and producing the aortic regurgitant murmur; and, as the auricles contract, an imperfect sound is produced from the smaller amount of blood which they expel to excite the contraction of the ventricle. In this case, if the disease be advanced, it is chiefly the blood propelled by the impulse of the ventricle that forms the pulse-wave passing along the arteries to their extremities; in consequence of which, the arteries are imperfectly distended, and the pulse-jerking, termed the pulse of unfilled arteries, is produced.[2]

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[1] "Watson's Lectures," p. 233.

[2] " C'est ce que Hope a voulu exprimer en appelant ce pouls, pouls des artères non remplies (pulse of unfilled arteries). C'est aussi le pouls defaillant de Stokes."—(Bucquoy, "Sur les Maladies du Cœur," p. 70.)

In observing the tracings of the cardiograph, you will perceive that the line of ascent (Fig. 3) indicates the contraction of the ventricle, and the plateau or horizontal line at the summit shows that the ventricle persists contracted for an instant before the line of descent commences that represents the diastole of the ventricle. But, in incompetency of the aortic valves, the line of ascent in the sphygmograph, on attaining the summit, immediately commences its descent, and terminates in the diastole, the plateau or horizontal line which represents the persistent contraction of the ventricle disappearing; which shows that at this point of the tracing, where commences the horizontal line, the blood recoils against the valves by the reaction of the aorta; but, as they are incompetent, a portion of blood is forced back into the ventricle, opening up its walls. It therefore follows, as an indubitable fact, that the blood recoils against the sigmoid valves in the normal and healthy action of the heart, closing them when the ventricle is still contracted—as the aortic reaction is exerted on the wave, impelling it onward; the contraction of the ventricle and reaction of the aorta accomplishing one movement—the propulsion of the blood-wave along the arteries to their extremities.

FIG. 4.

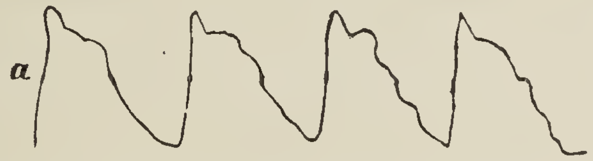

FIG. 4.—Tracings of the pulse by the sphygmograph in incompetency of the aortic orifice or disease of the sigmoid valves.—*a*, the line of ascent or contraction of the ventricle, the plateau or horizontal line disappearing and replaced by the acute angle at the summit which commences the line of rapid descent, or diastole.

"Les particularités que presente ce tracé sont les suivantes: 1°. Une ligne d'ascension assez élevée et absolument verticale; 2°. Le plateau remplace au sommet de cette ligne par un angle très-aigu formant une sorte de crochet; 3°. La déclinaison rapide de la ligne de déscente."—("Leçons Cliniques sur les Maladies du Cœur," Par I. Bucquoy, Paris, p. 71.)

The fact that the aortic valves are closed as the full blood-wave is impelled along the arteries, is a sufficient proof that the sound produced on closing these valves is the first sound of the heart, and systolic. On applying our ear to the chest, we place our fingers on the pulse at the wrist, connecting its beat with the first sound of the heart and contraction of the ventricle.

It may appear surprising that the ventricle should be contracted when the aorta reacts and closes the valves in completing the wave. But the ventricle and aorta are engaged in the performance of the same act, the propulsion of the blood-wave along the arteries; and the ventricle imparts the impulse to the aorta in distending it, which produces its reaction, and persists contracted while the aorta reacts. It is taught that the ventricle propels the blood-wave along the aorta and arteries to their termination, and then the aorta and large vessels near the heart react and force back a portion of blood against the valves, closing them. But it is easy to perceive that the ventricle could not propel a wave of blood along the aorta and arteries without the walls of the aorta being distended with blood, for, being strongly elastic at the base, they yield to the pressure exerted. And the walls must react before the wave is completed, or the next wave could not enter the aorta. It is, therefore, evident that the aorta must react in unison with the contraction of the ventricle, and close the valves in completing the blood-wave which passes along the arteries—the ventricle being contracted when the aorta reacts, because they are both engaged in the same function; and the contraction of the ventricle may be said to be only completed by the reaction of the aorta.

The heart is a double forcing-pump in which the ventricle and aorta impel the blood-wave along the arteries during the auricular dilatation.

2. Dr. Hope, from the series of experiments that he performed on the denuded heart of the ass,[1] limited the first sound to the contraction of the ventricle, and maintained that the second sound was produced by the closing of the sigmoid valves. But it can be proved to a demonstration that the closing of the sigmoid valves takes place in connection with the contraction of the ventricle, and as the full blood-wave passes along the arteries to form the pulse at the wrist and extremities, and must consequently be identified with the first sound of the heart. The fact is, Dr. Hope listened to the sounds of the heart when its action was weak and the sounds indistinctly produced, and considered the sound which he

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[1] "Hope on the Heart," p. 34.

heard on applying the stethoscope to the ventricle a distinct sound in itself, and the sound heard on applying the stethoscope to the aorta the second sound of the heart, but it is the first sound terminating as the aortic impulse is imparted to the wave. Hence the erroneous data which physicians have adopted respecting the cause of the sounds of the heart—data on which it is impossible to account for the dull and prolonged sound; for if it depends on the closing of the auriculo-ventricular valves, this takes place at the very commencement of the contraction of the ventricle, and cannot account for the first sound being synchronous with the ventricular systole, and also with the pulsation of the aorta, as it is admitted to be.[1] But no sound is produced on the closing of the auricular ventricular valves,[2] and to suppose that the second sound depends upon the blood in the aorta and pulmonary artery being forced back against the sigmoid valves during the diastole of the ventricle, is an idea totally opposed to facts. For, the moment the ventricle commences to relax, the walls of the aorta also become soft and compressible, assuming a state of rest in unison with that condition of the ventricle.

Dr. Hope states that, in listening to the sounds of the denuded heart of the ass, he heard the second sound over the semilunar valves, over the origin of the aorta and pulmonary artery, and that it was distinctly heard about two or three inches farther up the aorta from its origin, and that this sound alternated with the impulse as felt on the ventricles. In our experiments on the denuded heart of the turtle, we heard the first sound of the heart most distinctly at the origin of the aorta, over the semilunar valves; it was also heard higher up the aorta, but not so distinctly as over the valves. Bucquoy[3] states (page 114) that, when a bruit is connected with the first sound, it has a maximum of intensity at the origin of the aorta, is systolic, and propagates itself most distinctly into the aorta and the vessels of the neck. The question is, What was the sound which Dr. Hope heard at the origin of the aorta? was it the first or the second sound of the heart? He says the sound was alternate with the impulse of the ventricle, by which we understand that the impulse of the ventricle is completed when the impulse of the aorta commences which terminates the sound. And this is exactly what we witnessed in the course of our experiments. It was a prolonged sound that was produced, terminating in the closing of the aortic valves; and the valves are closed at the commencement of the impulse. The sound is systolic, as it was also heard higher up the aorta in the direction of the current of the blood, and occurs while the full pulse-wave proceeds along the arteries. Dr. Hope considered that the ventricle must be in its diastole when the sound is produced. But the ventricle persists contracted till the aortic impulse is imparted. These facts distinctly prove that the sound heard at the origin of the aorta, over the semilunar valves, and for two or three inches higher up the aorta, is a systolic sound and identified with the first sound of the heart.

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[1] Carpenter's "Physiology," pp. 418, 420.

[2] Wood's "Medicine," Philadelphia; "Hope on the Throat," p. 56.

[3] "Bucquoy on the Heart," p. 114.

And, when we listen to the sounds of the heart in man, we find that the first sound coincident with the impulse of the ventricle against the thorax, and best heard at the apex, appears to be higher seated than the second sound; the second sound being most distinctly heard toward the base of the sternum, in the course of the blood from the right auricle into the ventricle.

In the experiments on the denuded heart of the ass, the second sound produced by contraction of the auricles does not appear to have been recognized—very probably from the weak state of the action of the heart. But, in our experiments on the denuded heart of the turtle, when the action was vigorous, the second sound was clearly recognized at every beat of the heart, being most distinctly heard over the auriculo-ventricular foramen, as the auricles poured their blood into the ventricle, and nothing could be more satisfactory than the recognition of both sounds—the first is a dull and prolonged sound, produced by contraction of the ventricle and impulse of the aorta, as the blood-wave is sent along the arteries. It is the termination of the beat. And the second is a short and acute sound, produced by contraction of the auricles as the blood is sent with force through the auriculo-ventricular foramen into the ventricle. It is the commencement of a new beat, but follows the first so rapidly in the vigorous action of the heart, that the slightest interval occurs between them.

We have referred to the preceding experiments, because on them are founded the views generally entertained by the profession, that the first sound of the heart depends on the closing of the auriculo-ventricular valves during the ventricular systole; and that the second sound depends on the closing of the semilunar valves during the ventricular diastole. And no advance has been made in our knowledge of the cause of the sounds of the heart by the physicians in England and in Europe during the last quarter of a century. The cardiograph, no doubt, has illustrated the action of the heart when it is slow, and the contraction of the auricles immediately precedes the contraction of the ventricle. But it has not sufficiently illustrated the action of the heart when it is quick and vigorous, and the contraction of the auricle is coeval with the diastole of the ventricle; and the cardiograph has thrown no light on the cause of the sounds of the heart.

And both French and English physicians are still proceeding on false and erroneous data respecting the action and sounds of the heart. There cannot be a doubt that the sigmoid valves are closed in connection with the contraction of the ventricles, in order to produce the full blood-wave along the arteries; and the sound connected with their closure terminates the first sound of the heart—the aorta performing a most important function in the circulation of the blood, as it completes the wave produced by the ventricle, closing the valves as its full impulse is imparted. And disease in these valves tends to serious results, for a portion of blood is thrown back at every impulse of the aorta, inducing increased action in the ventricle.

It may, therefore, be stated as a doctrine resting on the clearest data, that the ventricle in propelling the blood-wave along the aorta distends its walls and persists contracted, sustaining the part while the aorta reacts, closing the valves and completing the wave—the arteries, at every beat of the heart, communicating to the veins an amount of blood equal to that expelled by the ventricle. But so rapid is the action, that when the ventricle propels the wave of blood into the aorta, the aorta starts up with a forward impulse and the movement is accomplished.

3. The contraction of the auricles has been a subject of great difficulty to physicians. They have viewed the action of the denuded heart when it was weak or irregular, and little or no sound was produced by contraction of the auricles, which immediately preceded the contraction of the ventricle. And they have considered that this is the manner in which the action of the heart is always performed. But in our experiments, when the action of the heart was vigorous, a clear and distinct sound was produced by contraction of the auricles, which immediately succeeded the contraction of the ventricle. And this we consider the normal and regular action of the heart in a state of health.

The heart is adapted either to a quick or slow circulation of the blood, and the contraction of the auricles, it is well known, excites the contraction of the ventricle. If the action of the heart be slow, the parietes of the ventricle relax quickly after contraction, and a portion of blood passes from the auricles into the ventricle, filling out its waves to a certain extent, and then the auricles contract, and produce contraction in the ventricle; and in proportion to the vigor with which the circulation, or the action of the heart, is maintained, so is the time when and the force with which the auricles contract. If the action of the heart proceed at the rate of fifteen or twenty pulsations per minute, the relaxing walls of the ventricle are filled out with blood from the auricles, and retain a momentary quiescence, and then the auricles contract and excite the contraction of the ventricle. But, in this case, it is only a small amount of blood that is impelled by contraction of the auricles, and the sound produced is weak and indistinct, and precedes the contraction of the ventricle. But, as the action of the heart increases, the auricles contract sooner and with greater vigor, sending more blood into the ventricle at every beat, till their contraction becomes coeval with the commencement of the diastole of the ventricle, and then the whole blood that enters the ventricle is propelled by contraction of the auricles. The auricles now contract immediately after the preceding impulse or reaction of the aorta, the slightest possible interval occurring between them, and we connect the dull and prolonged sound with the short and acute sound, being the first and second sounds of the heart. If the action increase to a still higher rate of speed, immediately after the ventricular contraction and impulse of the aorta, the auricles shoot down their blood with greater velocity into the ventricle, producing its rapid contraction; and it may be stated as a general law that, according to the rapidity with which the auricles contract after the impulse or reaction of the aorta, so is the vigor in the action of the heart, and the quickness with which the short sound succeeds the dull and prolonged one.

The following plan will more fully illustrate the manner in which the sounds of the heart are produced, premising that the statements made in reference to one side of the heart are equally applicable to the other.

First sound, produced by	Ventricular contraction and aortic reaction.
Second sound, produced by	Auricular contraction as the ventricle dilates.

The first sound of the heart is produced at the origin of the aorta, but heard most distinctly toward the apex of the ventricle, where it approaches the walls of the thorax during the systole.[1]

The second sound is best heard toward the base of the sternum, over the right auriculo-ventricular foramen, as the auricles contract and pour the blood into their respective ventricles. It appears to be seated lower than the first sound of the heart.[2]

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[1] "Le bruit systolic, nè loin de l'oreille, lui est transmis à la fois par le courant sanguin et par la paroi ventriculaire appliquée pendant la systole contre le thorax" (p. 20).

[2] "L'orifice auriculo-ventriculaire droit, également en arrière, mais un peu au-dessous de l'orifice aortique, répond á la partie du sternum voisine du troisième espace intercostal gauche. Une ligne tirée de ce point à la cinquième articulation chondro-sternale droite, indique la direction et la longueur de la valvule bicuspide (p. 14).—"Leçons Cliniques sur les Maladies du Cœur," par I. Bucquoy, Paris, 1873.

In obtaining correct views of the cause of the normal sounds of the heart, we shall be better able to comprehend the manner in which the abnormal sounds or murmurs are produced in disease, and to trace them to their real source. For how can we expect to arrive at a correct knowledge of disease of the heart and its valves, and apply proper remedies, if we proceed on false and erroneous data respecting the cause of the normal sounds?

New Instruments.

I.—*A New Extension Apparatus. The Extension Windlass: a Device especially adapted to the Treatment of Fracture of the Patella, for making Extension of Joints, and for Use in the Treatment of Certain Difficult Fractures.* By CHARLES DENISON, M. D., Denver, Colorado.

THE extension windlass, which is now presented to the medical profession, was the principal part of an apparatus for treating fracture of the patella, invented by the writer in the spring of 1870. Since then, as opportunity offered, he has sought to simplify the instrument, and thus bring it into general use. Yet, though considerable thought and time in experimenting have been given to it, much improvement is undoubtedly possible through the suggestions and experiments of others.

The device is about the size of an ordinary watch, yet strong enough for the needs of any case, either the extension of joints or as an aid in the treatment of fractures.

It is various in its application, the form of splint or support being mostly left to the ingenuity of the surgeon.

In the treatment of fractures this method of extension (by a stationary winding-rod or windlass, with ratchet and pinion attachment) has a decided advantage over the ordinary method by pulley and weight, since the force of the former is governed by the requirements of the case, while that of the latter must vary somewhat in an inverse ratio to those requirements.[1]

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[1] For, if we rightly comprehend, in making extension, the muscular power to be overcome and its relations to the various states of the nervous system, we cannot expect to remain *constant;* and yet, with a weight of

The accompanying cut (Fig. 1) represents the size and form of the extension windlass. The support for the winding-rod is made of sheet-brass, and the rod of about one-quarter-inch brass wire.

FIG. 1.

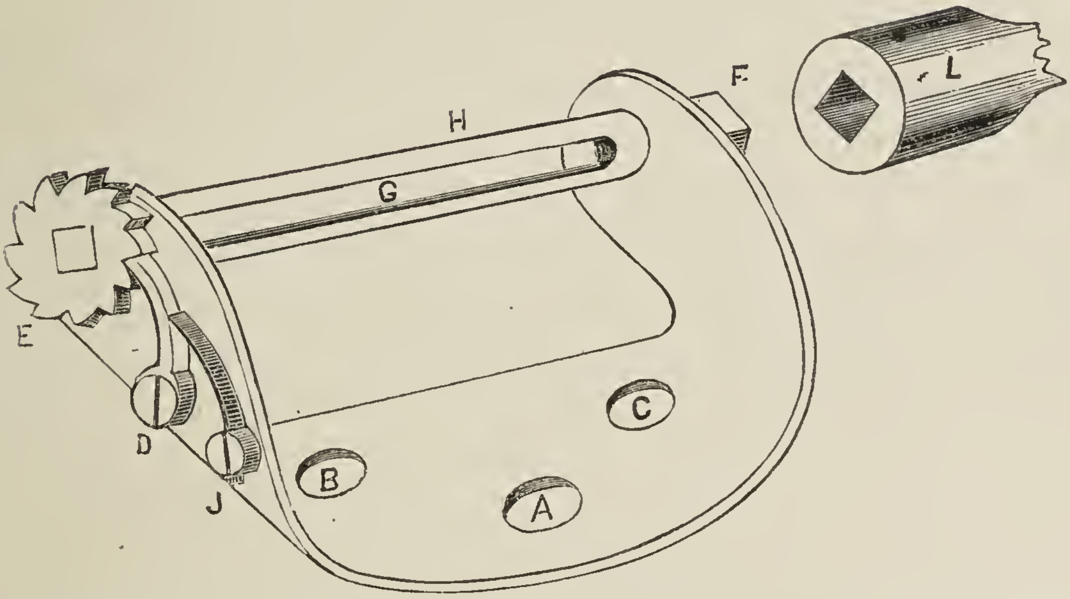

FIG. 1.—EXTENSION WINDLASS.—*A*, *B*, and *C*, holes for screws or tacks; *H*, winding-rod, slotted at *G*, squared at *F* for key *I*, and held in position by ratchet *E* and pinion *D*, with spring-attachment *J*. Length of the winding-rod, two and one-quarter inches; between the arms of the brackets, one and three-quarters inch.

This device is attached to wooden supports or splints, by screws, so as to be either *swivel* (self-adjusting by one screw) or *stationary* (by two or more screws), as the surgeon wishes.[1]

twenty pounds, being a constant force, it is sought to overcome another which naturally weakens. While so great a power may be necessary at first, still, as the opposing power lessens, its influence is really proportionately intensified. In this contest with a man's muscle and nervous system, a bag of sand has undue advantage. Then, too, there may be some uncertainty as to the amount of extension used by the pulley and weight. Some surgeons habitually weigh the sand or material used, instead of guessing at it, and then endeavor to regulate this weight as the case may require. Such are probably the exceptions. Now, if the maximum weight required (as Prof. Hamilton has found in making extension for fracture of the shaft of the femur) is twenty-two pounds, who can give us even an approximate rule for the weight necessary on successive days after the injury, as muscular contraction is gradually weakened, or that would be applicable to the great variety of cases occurring? The nearest to a correct guide would be *the length of the limb;* but this is just as reliable in extension by the windlass, which requires no more of muscles once relaxed, than to keep them under control.

[1] Or they can be fastened, if desired, by special screw and thumb-nut arrangement, to any part of a slotted adjustable metallic band, attached to the splint behind, and encircling the limb.

Fracture of the Patella.—Of several ways in which I have studied to apply this principle to the successful treatment of this fracture, the following is the simplest, and doubtless will most commend itself: A posterior splint is to be made of soft pine, to fit the convexity of the thigh and leg, with raised sides near the knee, which serve as points of attachment for the extension windlass, as shown in the following cut:[1]

The treatment is as follows: Fan-shaped adhesive plasters are cut of strong material, the broad portions, when applied, covering the quadriceps femoris below the middle of the upper third of the thigh; the other smaller ends, cut long enough, can be doubled on the adhesive side so as to give strength, and prevent that portion sticking. Taking the intended positions of the lower windlasses as starting-points, these adhesive straps are applied to the anterior convexity of the thigh (previously shaved) so as to cross each other above the upper fragment. The limb is snugly bandaged from the toes, the adhesive straps above the point of their intersection being under the bandage. The splint is now adjusted to the limb, and the counter-extension arranged. That in front of the knee may be made of a broad, soft pad, covered with chamois-skin, or simply of cotton rolled in a strip of cloth, the ends of which are to be threaded through the slots in the upper winding-rods. The ends of the reserve counter-extension, around the foot (which may be used if the pressure of the

FIG. 2.

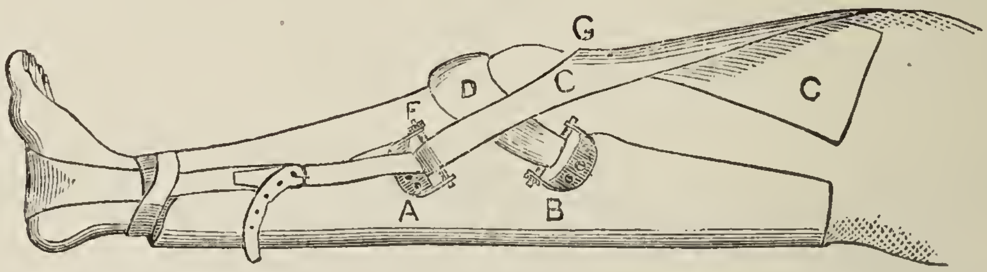

FIG. 2.—FRACTURE OF PATELLA.—*A A* and *B B*, extension and counter-extension windlasses, each fastened by one screw to wooden posterior splint; *C C*, fan-shaped adhesive plasters, crossing each other at *G*, and threaded through winding-rods *F F*; *D*, padded roller over ligamentum patellæ, the ends of which are threaded through winding-rods *H H*; *E*, reserve counter-extension to relieve *D* from uncomfortable pressure in front of knee. *I I*, point at which splint is bandaged to the limb.

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[1] A carpenter will glue two or three pieces together to make a hollow splint, or it may be hollowed out of a two-and-a-half or three-inch plank. The windlasses on the opposite side of the limb, in the illustrations, are simply indicated by doubling the letters referring to those shown.

pad in front of the knee is excessive), and the small ends of the fan-shaped adhesive plasters, already applied, are threaded through the slots in the lower winding-rods, when the requisite extension or counter-extension should be made to bring the fragments close together. At the same time, care should be taken to smooth the wrinkled integument underneath the dressing, so as to make the apparatus comfortable. If necessary, a bandage may be applied over the knee, with pad underneath to keep the fragments from tilting. By means of the fine-toothed ratchets desirable tension may be daily kept upon the adhesive straps or knee-pad, and thus the principle of the "figure-eight bandage" is constantly in effect while the muscular power of the quadriceps femoris is neutralized. With this method of treatment the patient need not be confined to his bed. However, the quadriceps is so powerful, that its exercise should be avoided, especially (for reasons which will suggest themselves) in short, fleshy persons. After union has taken place, and perhaps earlier in lean persons, the patient may attend to his vocation, if not requiring much exercise, always being careful during the first few weeks to lift the injured limb with his hand when he wishes to elevate it, as in putting his foot in a chair, or rising from a sitting posture.[1]

This apparatus, rightly used, is capable of holding the fragments permanently in apposition, without undue constriction of the circulation. Plenty of room can be obtained underneath the extension-plasters, if needed, for leverage on the edges of the patella, by pads or other devices, and the force of the quadriceps is constantly overcome, unless the muscle is deeply buried in adipose, or its great use excited. Without lengthening this article by a discussion of the causes of ligamentous union after this fracture, and of kindred subjects which would better show the utility of the extension-windlass, it is sufficient to state that a chief objection to most of the patella-splints yet devised is here obviated, in that the force to hold the fragments in apposition is not wholly expended on the tissues covering the bone. The apparatus is at least capable of suggesting a greater success—more bony unions—in the treatment of this troublesome fracture than has usually hitherto obtained.[1]

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[1] It is important that an apparatus should be worn until after union has thoroughly taken place and become permanently established. Though opinions differ on this point, I believe this should be done even at the risk of some stiffness of the joint in consequence of this delay; and the first flexions of the knee should be made with caution. At the end of five weeks, if thought desirable, the posterior splint can be retained without the extension and counter-extension apparatus, and the patella confined in an elastic cap held down by a suitably-fitting ring. Later, too, the knee-cap can be continued, and, in place of the long posterior splint, a short, well-moulded posterior leather or gutta-percha splint may be substituted, the shape of which may be occasionally changed by soaking it in hot water, so as to allow of more and more motion in the joint. Passive flexion may be made once in a while, but complete flexion should not be allowed for several months.

For rupture of the ligamentum patellæ, the two lower windlasses with the counter-extension around the foot would answer well.

For the treatment of fracture of the olecranon process of the ulna, the arrangement of the windlasses is very similar to that for fracture of the patella. The splint, however, should be lighter, well padded, fitting the anterior convexity of the arm; and the counter-extension be made by adhesive straps crossed below the joint, as are those for extension above the broken fragments.

For fracture of the tuberosity of the os calcis, or rupture of the tendo Achillis, the following use of the windlasses is recommended: A light posterior splint is to be made for the calf of the leg, cut away where the heel should come, with a foot-piece braced at an obtuse angle to the same. Fan-shaped adhesive plasters are to be applied over the gastrocnemius, crossing above the heel, underneath which, and above the upper fragments of the os calcis, pads may be inserted. Then the leg, bandaged, is put in the splint. The windlasses are fastened to the sides of the foot-board below the instep by one screw, so as to be swivel, and the small ends of the traction-plasters threaded through the winding-rods, when the desired force may be brought to bear to control the troublesome muscle and hold the fragment of the os calcis down in place.

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[1] From the results of two cases I have treated with my apparatus, the one from *direct injury* and much laceration of surrounding tissues, resulting in bony union, and the other, in a very fleshy, short man, from *muscular contraction* with apparently no laceration of the adjacent tissues, resulting in union by ligament about half an inch long, it occurs to me much light would be thrown on this subject of bony or ligamentous union by a well-tabulated record of the *results* as influenced by the *causes* of this fracture. So much does this idea impress me, that, having another case of this fracture from muscular contraction, I should make an effort to increase the amount of reparative material furnished, by rubbing the fragments together with force so as to arouse some surrounding inflammation at the point of fracture. At any rate, it is generally well to obtain crepitation at first, lest any of the surrounding tissues be interposed between the fragments, and thus affect the union.

Fig. 3.

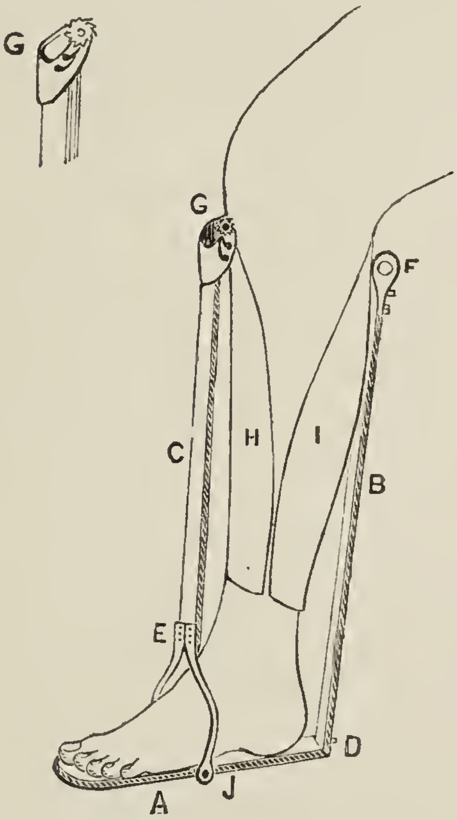

Fig. 3.—Extension of the Ankle-Joint.—*A*, wooden foot-piece, about one-third inch thick, to which, at *D* and *J J*, the supports *C B*, of the extension-windlasses, *G F*, are fastened. *H I*, fan-shaped adhesive plasters in position. Braces to go over instep (after Dr. L. A. Sayre's apparatus) are fastened to slat *C*, at *E*. The windlasses, *G F*, are reversed and made stationary on the upper ends of the thin slats, so as to draw the adhesive plasters close to the limb, and over the winding-rod.

For making extension of the ankle-joint the following combination of foot-board, thin splints, and two extension-windlasses, is recommended. The wood part may be made light, so as not to be cumbersome.

The foot is secured to the foot-piece by several adhesive strips, and then bandaged. The supports of the windlasses are afterward tightly screwed to the foot-piece at the heel, and below the instep, and the fan-shaped adhesive plasters properly secured to the leg, when the traction on these produces the required extension in the joint below.

This cut may be made to explain the use of the windlasses for extension of the knee and hip joints. The extension of the knee-joint is quite simple and effective. Two thin slats, similar to those in the cut, are to be used as side-splints, on the ends of which the extension-windlasses are reversed and made stationary. These supports are long enough to reach from the upper third of the thigh nearly to the ankle, the one on the inside being the shorter of the two. From one to three fan-shaped adhesive plasters are bandaged to the sides of the limb, above and below, the small ends of which converge toward the windlasses, and thus the traction of those above the knee is opposed to that of those below.

For extension of the hip-joint the perineal band may be used, with a long, light side-splint, on the lower end of which the extension-windlass is reversed and made stationary. The fan-shaped adhesive strips are applied to the outside and back of the calf of the leg, converging toward the winding-rod. In muscular adults it might be best to use also another extension-windlass, supported on the inside of the leg by a brace coming from the outside long splint.

Extension of the hip-joint could also be made by embedding the lower end of a long side-splint in a plaster-of-Paris bandage on the foot and leg (or by fastening the lower end of the splint by a brace, at right angles to it, to the sole of a shoe); while, on the upper end, above the crest of the ilium, two extension-windlasses might be made swivel, each pulling on a separate end of the perineal band. It will be apparent that several methods of dressing fractures of the femur might be combined with these methods of hip-joint extension.

But, for non-union after fracture of the shaft of the femur, I have devised the following dressing:

The thigh, being well protected by thick flannel or blanketing, is enveloped in a firm though not too tightly-fitting plaster-of-Paris bandage, from the knee to past the gluteal fold. In this dressing, on the inside and outside aspect of the limb, are embedded the roughened ends of two thin side-splints, about two inches wide, and reaching to the ankle, on the lower ends of which the extension-windlasses are fastened as in extension of the knee-joint. The upward pressure of this dressing is prevented from causing excoriations by a roll of cotton, wrapped in oiled-silk, in the groin. This pad and the swell of the hip give counter-extension, while extension, sufficient to keep the limb of the same length as its fellow, is produced by the windlasses. The above treatment proved quite effective in a case of non-union which came under my care, and I think would be a satisfactory dressing for oblique fracture of the shaft of the femur, especially where long confinement in bed is sought to be avoided.

A modification of this dressing also seems an excellent one for both extra- and intra-capsular fracture of the cervix femoris (though the opportunity for testing its efficacy has not yet occurred), namely: first, bandage the thigh over the gluteal muscles and over the waist, including underneath it, in the groin and gluteal fold, cotton rolled in oiled-silk, and suitable pads to protect any part from uncomfortable pressure. Then apply the plaster-of-Paris bandage, with splints embedded in it as shown above, except that the thigh and waist are to be included, the main strength of the dressing being on the outside of the hip. Afterward, should the dressing press uncomfortably in the groin, it could be cut away, and suitable pads introduced; but this would be avoided, in a measure, by trusting chiefly to the outside windlass for extension. By this method, the patient could be upon crutches, if desirable, and, at the same time the needed extension be continued.

For impacted fracture in the region of the ankle-joint, or oblique fracture of the tibia, the use of the windlasses for extension of the ankle-joint (Fig. 3) will suggest the peculiar way in which they might be fastened to the upper edges of the sides of a fracture-box, so that, when these sides are closed, the small, free ends of plasters, previously bandaged to the sides of the limb, can be threaded through the winding-rods, and the desired extension produced, the foot, of course, being bandaged to the foot-board. In a similar way the windlasses might be reversed, and made stationary on little braces fastened to the sides of an ordinary posterior-splint with a foot-board to which the foot is secured. Or the leg, to the knee, might be put in a plaster-bandage, in which thin side-pieces are embedded, which reach to the upper third of the thigh. On the upper ends of these the windlasses are turned over, and made stationary, so as to make traction on fan-shaped adhesive plasters, bandaged to the sides of the thigh.

Two or three of the last uses of this instrument are rather suggestions than the results of actual trial. Enough has been written, however, to show that this extension-windlass can be of great service to the skillful surgeon, especially in a country-practice, and among those who are not able to purchase expensive apparatus. The windlasses are manufactured by Messrs. Codman & Shurtleff, of Boston.

Clinical Records from Private and Hospital Practice.

I.—*Two Cases of Intussusception successfully treated by Fluid Injections.* By John S. Warren, M. D., Physician to Demilt Dispensary, Department for Women.

The comparative infrequency of the occurrence of invagination of the intestine in ordinary practice, and the difficulty attendant almost always in recognizing the accident when it has occurred, on account of the absence or the obscurity of the few decisive symptoms necessary to complete a diagnosis, have induced me to relate the two following cases which have come under my observation.

Both were so plainly characteristic of the presence of intussusception, as distinguished by the most recent writers upon that subject, from other forms of intestinal obstruction, as to leave no reasonable doubt in my mind of the positive existence of such a condition.

The success, too, of the treatment pursued, although not in the least new or original, was particularly remarkable in the first instance, in consideration of the age of the patient, and the extreme exhaustion that had resulted from the long continuance of the distressing symptoms prior to and after the use of the appropriate remedy was commenced.

J. McE., a healthy male child, seven months old, who had previously enjoyed good health, and been nourished entirely upon breast-milk, but troubled from birth with constipation, was suddenly taken sick in April, 1873, with severe colicky pains, accompanied with severe nausea and vomiting.

A physician was soon called, who decided, after a careless examination, that he was suffering only from colic, from his habitual constipation, and ordered a large dose of castor-oil immediately; but the mother soon discovered that this treatment only aggravated the child's sufferings, and that he grew worse, the vomiting and tenesmus increasing, with an occasional passage of blood and mucus.

On the third day I was sent for, and was informed by the father, before leaving my office, that the child could not get a natural passage from the bowels, and that only blood passed away. At once suspecting that it might be a case of intussusception, I took with me a Davidson syringe, for use if my suspicions should prove to be correct.

I found the little patient, on my first visit, extremely prostrated, countenance pale, lips livid, and the skin cold and clammy; he seemed to have great pain in the abdomen, which came on every twenty or thirty minutes, in paroxysms, and increased in intensity until he vomited, when he appeared relieved a little, or at least so faint and sick as not to scream; during the intervals when free from pain he would occasionally try to nurse, but the same symptoms came on, and then he became inclined to do so less frequently.

On examination of abdomen I found it soft and flabby to the touch, but no tumor was detected; but the introduction of my finger into the rectum revealed a smooth, rounded lump completely closing the upper portion of the gut; this I considered to be a positive verification of my diagnosis, and, accordingly, I began to inject the bowel with warm soap-and-water; this was repeated several times, but with no result, except the rejection of the water, considerably colored with blood at first, but finally nearly clear.

I then desisted, as the tenesmus, which had been occasional during the day, seemed to be increased by the enema. Then directing tinct. opii camph. to be given in doses sufficient to allay pain and to quiet the peristalsis of the intestines, I left the child until evening, when I again repeated the injections, but with no better success. On the following day, being detained by another patient, I did not make my first visit as early, by an hour or two, as I had intended, and, when I arrived, to my surprise I found Dr. A. S. Church, of this city, examining my patient, and, noticing very great embarrassment on the part of the mother, I asked for an explanation, when we were informed that, after the first physician had been discharged, they (the parents), in their anxiety for the recovery of their baby, had deemed it necessary to have two doctors in attendance; not in consultation, however, but to come in each other's absence, and to be led to understand that we were each in the sole charge of the case.

And this experience *en passant* is not, I suspect, new to a large number of physicians practising in New York and elsewhere, especially in their dealings with the poorer and more ignorant class of their patients.

I soon learned that Dr. Church had been in attendance about the same time as I had, and that he, too, had both recognized the accident that had happened to the patient, and was pursuing a similar treatment.

Accordingly, after a short consultation, we decided to again repeat the enemata, although we both had but little expectation of its efficacy, it being now the fourth day of attack, and the child having, of course, become very much weaker as the time from the inception of the trouble grew longer.

And now, with the child's chest resting upon the arm of a lounge, and the hips supported by Dr. Church, who also compressed the nates against the nozzle of the syringe, I commenced injecting tepid soap-and-water; but, for several minutes after, the irritation produced by the action of the syringe caused a tenesmus, and the expulsion of nearly all the fluid; though, by a steady persistence, and a very careful manipulation of the instrument, the straining grew less and less, the child became soothed, and finally fell into a short slumber, and I had succeeded in injecting ten or twelve ounces, which was retained.

As then, by mutual agreement, Dr. Church assumed charge of the patient, I did not visit him again, but was informed soon after by the doctor that, when he saw him the next day, he found him completely relieved of all unfavorable symptoms, and later that he had completely recovered.

John M., a healthy, well-developed male child, nine months old, nursing, who had been generally well since birth, but had been always constipated, was suddenly seized with vomiting and retching on Saturday, January 16, 1875, while sitting in his mother's lap at the dinner-table (1 P. M.), which continued at intervals of perhaps every half-hour or longer during the afternoon.

I was sent for, and saw him just before night, when the mother informed me that she feared an attack of scarlatina, or diphtheria, as the glands (submaxillary) on right side were considerably swollen; on examining the throat internally, I found no evidences of congestion or inflammation, except that the mouth seemed hot and tender from the approach of two incisor-teeth. No fever, temperature normal; the only symptom apparent during my visit was an occasional fretful and uneasy movement whenever I pressed my fingers against the swollen gland or in the mouth. I concluded that this symptom was due only to the condition of the gums and throat, especially after learning that a natural movement of the bowels had occurred in the morning; and, after prescribing small doses of bromide of potash, with a carminative, I left.

Later in the evening a messenger came to tell me that the vomiting, which had for a time subsided, had recommenced, and was quite violent and frequent. For this, ordered powders of bismuth, and promised to see him in the morning. On the next day (Sunday) he was very much better; the vomiting was greatly relieved, and, in fact, had almost entirely disappeared. He was inclined to play a little, but would still, at times, move about as if in pain. As he had had no movement of the bowels since the previous morning, I ordered an enema of tepid water, and again left him.

At a late hour that night I was sent for to go immediately, as the child was very much worse than at any time during his illness. On my arrival the mother informed me that after my departure she had given the injection as ordered, and that it was followed by quite a large quantity of blood, mixed with a very little fecal matter, and after that, for a while, he seemed much relieved; but during the afternoon he again became restless and vomited several times, and from about seven in the evening, until I arrived at 11 P. M., he had grown rapidly worse, vomiting at much shorter intervals, writhing and crying as if in intense pain. My attention was almost immediately directed by the mother to a swelling in the abdomen, a distinct tumor just above the umbilicus, quite large and hard to the touch, which had attracted her attention only during the past few hours, and had been remarked upon voluntarily by a lady friend present with her.

This, together with the passage of blood in the morning, at once suggested to my mind intussusception. The patient was looking very pale and prostrated, the pulse was quick and feeble, and the skin cold. I at once determined to use fluid injections, and, with the little patient placed in a semi-prone position in his mother's lap, with an ordinary Davidson syringe I commenced injecting tepid soap-and-water, but after perhaps a gill had been thrown into the rectum it was almost immediately rejected, very highly colored with blood, and mixed with it a very small quantity of mucus and fecal matter; the latter, by-the-way, not hardened, but of the consistency of soft putty. In a second attempt the fluid was retained longer, but was after a little while discharged, with more blood and mucus, but with much less tenesmus and pain.

When, soon after, I made my third attempt, the child's chest was rested upon the side of its mother's lap, with lower extremities elevated by an assistant, so that the position was at an angle of about 45°, anus upward. This time I injected the fluid very slowly, in order to avoid, if possible, the irritation caused generally by the frequent emptying and refilling of the syringe (which, by-the-way, is a very serious hinderance to the successful use of this syringe, and which renders it much inferior to the fountain or hydrostatic). In this manner I succeeded in injecting, as I estimated at the time, perhaps ten or twelve ounces, and during the operation the child gradually became more quiet, and had, when I ceased, fallen asleep. Then, with the direction that occasional doses of tinct. opii camph. should be administered during the night, to control, if possible, the peristaltic action of the intestines, I left him.

On the following morning, to my surprise, I found the child sleeping quietly and naturally, and I was informed that at about 5 A. M. (six hours after my visit) he had a movement of the bowels, which was saved for my inspection, and consisted simply of the enema, slightly colored with fecal matter. From that time he seemed to be entirely free from pain, and six or seven hours later had a natural passage, after which recovery progressed rapidly, and in a few days he was discharged well.

These I look upon as very good specimen cases of true inflammatory intussusception, and are the only cases that I have ever met with where the symptoms were sufficiently clear to warrant an absolute diagnosis of this derangement, with one exception. Some two years since, through the kindness of my friend Dr. B. F. Dawson, of this city, I saw in an infant about seven months old, which had been brought to his class for children in Demilt Dispensary, a condition similar to that described in my first case, viz., where the invaginated intestine could be plainly felt by a rectal examination ; unhappily, however, in this instance the child was almost moribund at the time, and all ordinary treatment proved unavailing.

As an intussusception of the bowels cannot, perhaps, in some obscure cases, be satisfactorily determined by positive signs during life, and is only discovered after a *post-mortem* examination, yet, to my mind, in the larger proportion the symptoms are almost unmistakable to any careful observer. The sudden seizure ; the early nausea and vomiting ; the obstinate constipation ; the pain and tenesmus ; the tumor in the abdomen, and occasionally in the rectum ; and, above all others, the passage of blood *per anum* — these symptoms may indeed be present in many other diseases ; but when we find them combined together, and particularly when the last-mentioned symptom (the hæmorrhage from the bowels) is present, I think we cannot fail to diagnosticate intussusception.

The prognosis in this disease is, by the most prominent authorities who have written elaborately upon the subject, conceded to be highly unfavorable. One of the earliest practical writers, Mr. Gorham (" Guy's Hospital Reports," vol. iii., 1838) says that while the non-inflammatory variety is obscure in its symptoms, and is never serious, the inflammatory invagination is highly dangerous, and very frequently fatal, though in some cases recoveries have occurred by sloughing, as also by inflation by air. Dr. J. L. Smith, in a recent exhaustive paper (*Journal of the Medical Sciences*, 1862), says that "it is so grave an accident, that a physician when called to a case should always predict a fatal termination; and infants with intussusception other than in the simple form almost invariably die. We cannot with any reason expect recovery except through sloughing and the expulsion of the displaced intestine;" and in his collection of fifty cases is the record of seven cases which resulted favorably in this way.

Other authors, and among them Dr. West ("Diseases of Children"), speak less decidedly as to the fatality of the disease, and remark that, besides terminating by sloughing and separation, spontaneous resolution may sometimes occur and the intestines be completely restored. A similar result has happened in Dr. West's own practice, and in other cases on record, following inflation by air or water.

It is my own conviction, however, that we should in no case trust to Nature for a cure, but in every instance, with a steady persistence, use every means at our command to restore the strangulated intestine.

As to treatment, it is now acknowledged by those experienced in this disease, and who have a knowledge of the anatomy of the parts affected, that all medication, save opiates or other sedatives, to relieve pain, and quiet the peristaltic action of the bowels, does most serious harm; and the only reasonable and scientific means at our command consists in injections of air or fluids.

The first of these methods, although used and advocated at a very early period, has not been often practised until within the past thirty or forty years, during which time a number of well-authenticated cases have been put on record as cured by this means; among them I will refer to the case of Dr. Janeway, of New York (*Journal of the Medical Sciences*, 1833); others by Mr. Gorham ("Guy's Hospital Reports," 1838); two cases by Dr. Greig (*London Medical Journal*, 1864); and others, all of whom have claimed great and decided advantages for this means over the injections of fluids—advancing as arguments its ease and simplicity of application, entire harmlessness, and an absence of irritation, which the use of fluids produces when injected into a sensitive rectum. Having never used it, I am only able to say that others, perhaps equally prominent as authority, assert the superiority of fluids over air.

Some authors, and Dr. Brinton especially, allege that inflation by air may in many cases be productive of very great injury to the patient. Be this as it may, I only wish to testify to the happy and very unexpected success which has attended the use of fluid injections in my hands; and, in conclusion, also to express my belief that, in the administration of this remedy, two rules essential to success should always be remembered, viz., a persistence in its repetition, and the proper position for the patient. For the last I am indebted to Dr. Stephen Rogers, of this city, after the perusal of his valuable contribution on intussusception ("New York State Medical Transactions," 1872), wherein he says: "As the power with which to force back the displaced bowel to its normal position, fluid can have no dissimilar effect to that produced by air or gas, unless the weight of the fluid be applied as a factor. But, if the position of the body be so changed from the horizontal as to elevate the rectum as far above the obstruction as possible, it is readily seen how hydraulics will apply more force at the point of obstruction than at any other."

Again, in advocating persistence, I wish to be understood to urge repeated trials, even if at first the presence of the injection excites spasmodic action of the bowels, and it is entirely rejected. For, in many instances, I believe that frequently after two or three attempts, and when the intestine has become completely emptied of what little fecal substance, blood, and mucus, may exist below the obstruction, we may in many cases, by a careful and slow manipulation of the fluid, succeed in its retention when we might otherwise fail. In the preceding cases, at least, I feel sure that life has been saved by the observance of such rules.

II.—*Iodoform in Chronic Suppuration of the Middle Ear.* By Frank H. Rankin, M. D., Assistant Surgeon to the Manhattan Eye and Ear Hospital; Clinical Assistant to the University Medical College, New York.

Case I.—Service of Dr. Roosa at the Manhattan Eye and Ear Hospital.

Lizzie H., aged seven years, first became an out-door patient at the hospital about three and a half years ago. At the time of admission she had an offensive purulent suppuration from the left ear, with quite a large perforation in the membrana tympani. The discharge first commenced after an attack of varicella, a year and a half previous to admission. She was treated for nearly a year at the hospital, and was then dismissed, the suppuration having entirely ceased, and the perforation in the drum having perfectly closed. The perforation remained healed for a little more than three months, when the suppuration recommenced after a severe attack of tonsillitis. She again became an out-door patient at the hospital, and, after attending a few months, the mother became discouraged, and discontinued treatment for a year.

A year ago last August the little patient was taken down with scarlet fever; during the sickness the right ear commenced to discharge, and the secretion from the left became very profuse, purulent, and offensive. For the third time she returned to the hospital, and a little more than a year ago came directly under my care. I found a profuse purulent secretion coming from the left ear, but a rather scanty one from the right ear; a large perforation in the membrana tympani, and the child very deaf: could not hear the watch at all, and could hear the voice only when spoken to in a very loud tone.

Treatment.—The patient was subjected to the usual treatment pursued at the hospital in cases of chronic suppuration of the middle ear, viz.: Politzer's method is first used to drive out the collection of pus from the cavity of the tympanum, and from the Eustachian tube; the ear is then cleaned by syringing with lukewarm water, and dried with cotton on a holder; and finally solutions of various astringents are dropped into the external auditory canal, and allowed to run down into the cavity of the tympanum. The astringent generally used is nitrate of silver, in strength from twenty grains to eighty grains, and even stronger, to the ounce of water. Zinc, alum in solution and by insufflation, and copper, are also employed; the patient at home having the ear syringed out two or three times a day with warm water, containing carbolic acid or liquor sodæ chlorinatæ, and afterward a two or four grain solution of sulphate of zinc dropped in. Under this treatment the discharge in the right ear soon ceased, and at the end of three months the perforation in the membrana tympani was entirely closed, and the patient could hear when spoken to in an ordinary tone of voice. The same course of treatment was pursued for the next six months with the left ear, the one first affected, without any special benefit, excepting a diminution in the discharge.

On the 7th of November, 1874, the condition of the left ear was as follows: There was a considerable amount of thick, creamy pus in the tympanic cavity, and covering the drum: on washing this away, a clean-cut perforation, of about a line and a half across, was observed in the anterior and inferior quadrant of the drum. Hearing-distance $\frac{2}{48}$ with the watch; no tinnitus. Health of patient very good.

It occurred to me that the use of iodoform, which has been found of so much efficacy in ulcerative conditions in other parts of the body, would be of benefit in chronic suppuration of the ear. I accordingly commenced its employment by insufflation, blowing it well back into the cavity of the tympanum. After the third insufflation the discharge ceased to be purulent, and became ropy in character. For the first week the iodoform was used daily, afterward every other day. At the end of two weeks there was not the slightest perceptible amount of moisture in the ear, the perforation had materially reduced in size, and the hearing distance had increased to $\frac{10}{48}$ with the watch. The ear remained dry for the subsequent two weeks, the iodoform being used once or twice a week. On the 10th of December the patient took a severe cold, and a few days afterward a slight amount of pus was seen oozing through the perforation. This was soon stopped, and the ear has remained free from discharge up to the present (January 30, 1875). The perforation is still not closed, and I am now touching up its edges with a strong solution of nitrate of silver.

CASE II.—David H., aged sixteen, a brother of the former patient, came under my care in private practice. When two years of age, the left ear commenced to discharge while convalescing from scarlet fever, and at no time since then has the ear been free from secretion. Nine years ago, while attending the New York Eye Infirmary, was told that nearly the whole drum was swept away. For the past two or three years his mother has been using the same treatment, at home, as was directed for his sister, and the discharge has been very materially reduced.

He came under my care November 19, 1874. I found a slight amount of thin, watery discharge covering the left membrana tympani; on removing this, a small perforation was observed in the lower and posterior portion of the drum. There was no light spot. Hearing-distance for the watch, $\frac{10}{48}$; tuning-fork heard only in left ear.

Treatment.—Politzer's method was used in order to drive out the secretion from the cavity of the tympanum; the ear was thoroughly cleaned by syringing with warm water, and dried with cotton holder, and, finally, finely-powered iodoform was insufflated, blowing it well into the tympanic cavity. This treatment was pursued every other day, and after five applications the discharge had entirely ceased. At the end of the third week the perforation was entirely closed, and remained so up to January 20, 1875, the last time I saw the patient.

CASE III.—Service of Dr. Roosa at the Manhattan Eye and Ear Hospital.

Robert F., aged nine years, presented himself at the hospital June 20, 1874. When three years of age had scarlet fever; during the sickness both ears commenced to discharge, and have continued to do so since. On admission to the hospital there was found a very profuse, purulent, offensive discharge from both ears; the membranæ tympani almost entirely swept away, merely a rim remaining in the upper and posterior periphery. Hearing-distance, with the watch, right ear, $\frac{1}{48}$; hearing-distance, left ear, $\frac{1/2}{48}$. Could only hear the voice when spoken to in a loud tone. The patient's mother having been advised by her family physician "not to meddle with the ears, as the child would outgrow the trouble," nothing was ever done to the ears, excepting syringing them out with warm water, till the patient came to the hospital.

Treatment.—The ordinary treatment by Politzer's method, and the use of astringents and disinfectants, were carried out for five months, at the end of which time the discharge had diminished somewhat from both ears, and the hearing-distance had increased in the right ear to $\frac{14}{48}$, and in the left ear to $\frac{12}{48}$, and he was able to hear the voice when spoken to in an ordinary tone.

The insufflation of finely-powdered iodoform was commenced on November 22, 1874, and repeated every day for ten days, at the end of which time the tympanic cavity of each ear was perfectly free from discharge; for the next two weeks the iodoform was used every second or third day, both ears still remaining free of moisture. He was then not seen for two weeks, and on his return a slight amount of pus could be detected in the cavity of the tympanum of both ears. Iodoform was again insufflated, and the patient has not been seen since. The perforation in the membrana tympani remained unreduced in size. When last seen he could hear the voice when spoken to in an ordinary tone.

Case IV.—Service of Dr. Roosa, at the Manhattan Eye and Ear Hospital.

Lizzie C., aged six. Has had a suppuration from both middle ears since an attack of scarlet fever when one year of age. The family physician in this case also advised that "the ears should be let alone, as the child would outgrow the trouble." In consequence of this advice, nothing had been done for her ears when she came to the Manhattan Eye and Ear Hospital, a year and a half ago. On presenting herself at the hospital, there was a profuse purulent running from both ears, both drum-heads almost entirely swept away, the handle of the malleus gone in both ears; she could not hear the watch at all, and heard the voice only when spoken to in a very loud tone. She could talk but little, saying only a few of the simplest words.

Under the ordinary treatment at the hospital, her hearing-power was very greatly improved, and she can now hear the voice when spoken to in an ordinary tone; she has a good ear for music, goes to school, and her mother says she talks and sings more at home than any of her other children.

On November 22d, when I commenced the insufflation of iodoform, the condition of her ears was as follows: In the auditory canal of each ear was found a collection of thick pus. A large perforation in each membrana tympani, involving fully two-thirds of each drum. She could hear the voice when spoken to in an ordinary tone. The ossicles were all intact except the handle of the malleus. After seven applications of the iodoform there was only a slight amount of moisture in the tympanic cavity of the right ear; the left was perfectly dry. For two weeks the patient remained away, and then returned, and was under treatment for twelve days, when both ears became perfectly dry. She was absent again for three weeks, and returned on January 30th with a slight amount of moisture in both ears. The perforation has slightly reduced in size.

The last two cases are fair examples of cases frequently seen at the hospital of the disastrous results of the too-oft-given advice of "let the running ear alone; don't meddle with it; the child will outgrow the trouble." The cases also show what great benefit may be accomplished in restoring the hearing-power in cases of chronic suppuration of the middle ear, when the greater part of the drum has been swept away, and in which the treatment has merely checked the discharge and has not closed the perforation.

Dr. Roosa informs me that, at my suggestion, he has used iodoform by insufflation, in the case of chronic suppuration of the middle ear, in private practice. The case was one in which there had been a discharge for over four years. After insufflating finely-powdered iodoform several times a week for three or four weeks, the suppuration was entirely arrested, and the ear has remained perfectly free from discharge for the past two months.

Remarks.—Until within a very recent period, the use of iodoform was confined almost exclusively to venereal troubles, and chiefly employed as a topical remedy. Its domain of usefulness, however, was not allowed to remain contracted to so narrow a field, but is now constantly widening, and every year is showing the importance of this very useful drug.

Though containing ninety-six per cent. of pure iodine, it is totally devoid of corrosive properties, and has not the slightest local irritating action. It can be applied to highly-inflamed and sensitive tissues, without exciting pain; in fact, it acts as a local anæsthetic. Besides possessing the stimulating effect of the ordinary iodine and iodides, it acts as a local tonic, and possesses highly-disinfectant properties. We would naturally conclude that a drug possessing so many valuable properties would be of decisive benefit in chronic suppuration of the middle ear, and the highly-favorable result obtained in the cases just given justifies us in asserting that in iodoform, properly used, we have a very important agent in checking the chronic discharges from the tympanic cavity.

Before using the iodoform, which should be in a finely-powdered state, it is, of course, essential to see that all secretion shall have been *thoroughly* removed from the middle ear, and the parts well dried with cotton on a holder. The instrument I have used for blowing in the iodoform is an insufflator similar to that used for the throat, with only this difference, that the tube, instead of being curved, is straight.

III.—*A Case of Fungus Hœmatodes.*[1] By E. H. Davis, M. D., Albany.

Mr. J. L., aged fifty-six, farmer, consulted me in reference to a very small subcutaneous encysted tumor about the size and thickness of a silver dime, situated between the tendons of the semi-tendinosus and the lower end of the os femoris.

He was a large man, full six feet in height, and finely proportioned; of free habit, and sanguine nervous temprament; healthy, good constitution, and his mode of living most exemplary for regularity and temperance.

The tumor was movable, smooth, and the integuments covering it natural.

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[1] Read before the Medical Society of the County of Albany, February 17, 1875.

He had only discovered it a day or two before, in casually passing his hand over the thigh; and thought it might have been there for a long time unnoticed, as it was entirely free from pain and tenderness.

My opinion was, that it had existed for a very brief period, and its sudden appearance in this situation, without any apparent cause, led me to fear that it was malignant. This opinion I expressed to him, and advised that nothing be done for it, for if malignant it would only too soon develop its true character. My expectation was fully realized, for so rapid was its growth that at the expiration of a month and a half it had attained many times its original size, and exhibited all the characteristics of medullary sarcoma, or fungus hæmatodes.

He was directed to apply twice a day Lugol's strong solution of iodine, and to take internally liq. pot. arsenitis. This treatment had little or no effect in retarding the growth, and it soon involved the skin, with which it became adherent.

The surface at this time was uneven and lobulated, with a slight purple discoloration, attended with enlargement of the superficial veins. There was a feeling of fluctuation in a part of the tumor, so remarkably deceptive that, although forewarned by most writers upon this disease, I was induced to test its contents by introducing an exploring needle, but obtained only a few drops of dark grumous blood. Although it was followed by no unpleasant consequences, it is needless to say I did not repeat the experiment.

In three months and twenty days from the first consultation, and from the first discovery of the disease, I removed the morbid growth by excision. A long elliptic incision was made, including more than the diseased integuments, and I removed freely healthy tissue surrounding the whole diseased structure. The wound was well cleansed, and the edges were brought together and secured with sutures and adhesive straps. It healed kindly.

In about one month and a half later, a small tumor, of the same size and appearance as that first discovered, made its appearance close to the upper margin of the cicatrix. This second growth continued to enlarge steadily, notwithstanding the constitutional influence of arsenic and the local application of iodine, and in three months more time the tumor was again extirpated, including a large portion of the surrounding tissue, cutting at a distance from the tumor and removing much of what seemed to be healthy tissue. The wound again healed kindly, after a slight sanious discharge.

The appearance of the limb was entirely natural, reviving hopes that the disease might now be permanently stayed, but it returned again in less than one month from the time of its second removal. It now made its appearance in three places on the upper margin and in two on the lower margin of the cicatrix, each one resembling its first development. The patient and friends were now thoroughly alarmed and disheartened. The disease grew rapidly, and the several parts soon coalesced and became large and lobulated, and purple, with a smooth and glossy surface. I then took the patient to Prof. Bryan, of Philadelphia. He concurred with my opinion, and advised removal again by excision, but said that he regarded the case as almost without the pale of recovery.

I proposed to operate again, and, if it again returned, to amputate the limb as the only hope of success. This the patient assented to; but about this time some one sent him the advertisement of a traveling mountebank styling himself a cancer doctor, and he was induced to place himself under his care. He said the medicine he gave him cost a hundred dollars a pound, and that he must of necessity charge him accordingly; that this valuable medicine would soon cause the cancer to open, and portions would come off; and finally the whole cancer would drop out from the bone. This all proved partially true, but, instead of the cancer dropping out, the patient died. Up to this time he exhibited the most robust health, florid complexion, full habit, and a good appetite.

Soon after the ulceration occurred, his whole appearance changed, and he became thin and pale: large fungi shot from the ulcer, turned black, and then sloughed off. By a dark, offensive expectoration, mucous *râle*, and dyspnœa, the lungs showed that the disease had invaded them. The patient continued to fail, and died in three months after the disease became an open cancer and seventeen months from its commencement.

There are two points of interest in this case: 1. The patient was fifty-six years of age when the disease developed, and I believe that all authors agree that fungus hæmatodes generally attacks the young, and those under middle age.

2. The disease was twice removed by excision, the wound each time healing kindly, and the health remaining good until it became an open sore, fourteen months from its commencement, and over five months after the second operation. Is it not reasonable to conclude that his life might have been further prolonged by repeated removal of the disease just previous to a threatened ulceration?

The pathology of malignant growths is still uncertain and obscure. By some writers their origin is attributed to a depraved nutrition, and their cause considered entirely local. In other words, it is assumed that cancer-cells are only a modification of the natural cell-germ induced by this extraordinary alteration in the molecular nutrition of the parts.

One of the most characteristic operations of the vital forces is the production of new tissue, which in turn may become the instrument of a similar metamorphosis. Does it not seem, then, more probable that the malignant character depends upon the presence of a morbid matter in the blood, of which the formation of the cancerous tissue is only the manifestation?

IV.—*Transfusion of Goat's-Milk.* By Joseph W. Howe, M. D., Visiting Surgeon to Charity and St. Francis's Hospitals.

The use of milk as a substitute for human blood in transfusion has been suggested by various writers, but I have been unable to find an instance of its employment recorded.[1] The following case affords a good illustration of the effects of milk on the system in a state of extreme exhaustion:

Peter Early, aged thirty-nine, occupation laborer, was admitted to Ward 9, Charity Hospital, on May 6, 1874, suffering from chronic rheumatic arthritis of the knee-joint, and tubercular disease of the lungs and peritonæum. His disease made little progress until the early part of September, when vomiting and diarrhœa set in, accompanied by hectic fever. The abdomen became tympanitic and tender on pressure; all solid food was rejected by the stomach, and he subsisted almost entirely on stimulants. On the 16th of October transfusion was proposed, because he had been without nourishment for several days, and was sinking rapidly. Blood could not readily be obtained for the operation, and goat's-milk was substituted. Having exposed the cephalic vein of the patient's left arm in the usual manner, and filled the cylinder of the aspirator with warm milk, the tube of exit was attached to the canula in the vein and the liquid forced in. When about an ounce and a half had been introduced, the patient complained of vertigo, his eyes began to twitch from side to side (*nystagmus*), and his vision grew dim. The pulse was not affected. In a few moments these symptoms disappeared, and another ounce was slowly injected. The unfavorable symptoms again appeared, and with the stoppage of the injection as speedily departed. Four minutes subsequently, another ounce was forced in, without exciting any head-symptoms, but, instead, the patient complained of pain in the chest and shortness of breath. The canula was then removed, and a small compress placed over the opening in the vein. As soon as this was done, the dyspnœa and pain disappeared. The only perceptible change, half an hour after the operation, was in the pulse, which seemed to be increased in volume.

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[1] Dr. Hodder, of Toronto, injected milk into the veins of cholera patients, with partial success, over twenty years ago.—Editor.

In the evening, eight hours after the first transfusion, the home-surgeon, Dr. Hughes, injected three ounces more of the milk, without any more disagreeable effects than accompanied the previous operation.

October 17th, the patient expressed himself as feeling much better, and wished the transfusion repeated; but, seeing no change for the better in his general condition, and feeling assured that it would not prolong his life, I did not comply with his wishes.

Death took place on the evening of the 18th.

Post-mortem examination showed extensive tubercular deposits in the lungs, and tubercular peritonitis. The veins of the arm in which the milk was injected were dissected, and found healthy. The brain and its membranes were also in a normal condition.

Notwithstanding the fact that the patient thought himself benefited by the operation, I am of opinion that it had no effect one way or another; it did not hasten his death, neither did it add an hour to his existence.

V.—*Ulcerated Scirrhus of the Œsophagus.* By B. Merritt Bishop, M. D., Hoosic Falls, N. Y.

Mrs. R., aged sixty-four, a robust woman, of a sallow complexion, consulted me July 10, 1874.

Patient had always enjoyed perfect health, with the exception of slight dyspeptic ailments occasionally for a number of years. She noticed, a few days before consulting me, that her food did not pass readily into her stomach; there seemed to be an obstruction in the passage, as she expressed it, about two inches below the top of the sternum. On questioning her, I found that whatever she swallowed would remain down a few moments, and then return quietly into the mouth again.

She had no pain; pulse, inspiration, and temperature, normal. On attempting to use a bougie, I found it utterly impossible to pass even the smallest. Treatment consisted of the use of nutritive enemata. Her dysphagia continued unattended with pain or other conditional disturbance until August 6th, when she took to her bed, her temperature being 101°, respiration 20, pulse 100; the following night commenced vomiting grumous blood, which continued twenty-four hours, ceased entirely on the administration of hydrocyanic acid, and did not return. Her condition remained unchanged until the 13th, when her temperature suddenly rose to 104°, her pulse 120, and she began to suffer from dyspnœa, in which condition she remained until the 15th, when she died. Autopsy revealed a perfectly healthy condition of all the organs, except the œsophagus. The malignant disease began at the cardiac orifice and extended up to the junction of the superior with the middle third, at which point a complete stricture was found, occasioned by adhesions. The surrounding tissues were very much hardened and thickened, pressing hard on the trachea, while the mucous lining was completely destroyed by ulceration.

Remarks.—After diligent inquiry and research, I have been unable to learn of a similar case—one beginning and ending so abruptly (within so short a time, it being only six weeks from the first intimation she had of any trouble, until her death), unattended by pain throughout, and with elevation of temperature until within a few days of death.

Notes of Hospital Practice.

ST. FRANCIS'S HOSPITAL, NEW YORK.

Multiple Stricture of the Rectum; Lumbo-Colotomy.—The patient was a woman aged forty-seven, who gave the following history: Ten years ago she detected a narrowing of the rectum, first by the difficulty in passing her fæces, and again, when they were passed, she found them to have a diminished calibre. From that time the difficulty in defecation had very much increased, and at the time of operation it was attended not only by pain but also by hæmorrhage. Last winter she said that she was operated on for piles, and at that time her physician detected the stricture, but did nothing for it. An examination of the rectum showed ulceration of the mucous membrane down to the anus, with numerous tortuous strictures extending upward for five inches. No history of dysentery, cancer, or syphilis, could be obtained. After consultation it was decided to perform lumbo-colotomy. The operation was performed by Dr. Joseph W. Howe, and consisted in making an oblique incision in the left lumbar region, from the lower border of the last rib to the anterior spinous process of the ilium. The rule that guides and directs this incision is a point one-half an inch posterior to a point midway between the anterior and posterior spines of the ilium. The oblique incision is so directed that its centre is in a vertical line with the point first mentioned, and is carried down through the lumbar aponeurosis till it reaches the colon covered by fat. Two ligatures are then carried through the gut and secured to the skin, one at either side of the incision. An opening is then made in the colon, and the intestinal mucous membrane secured to the skin. On the day following the operation the temperature rose to 105¼°, but under the influence of quinine sank to 98½°. Since the operation the patient has ceased to suffer pain, and in every respect is very much improved. The opening is kept of the proper calibre by using a section of a wax-candle as a plug.

After-Treatment of Exsected Joints.—After the usual operations for excision of any of the joints, plaster-of-Paris bandage has been used with much benefit. It serves the purpose of being relatively light, and at the same time keeps the limb perfectly quiet. A fenestra is cut where it is necessary, either for purposes of dressing or drainage.

NEW YORK EYE AND EAR INFIRMARY.

Cyst of Iris.—The patient was aged twenty-one, and by occupation a farmer. The history obtained was that, when a boy, he had inflammation of the eyes, but did not remember having had either eye injured by a blow or otherwise at any time. On examination, the left eye was found to have a large macula on the cornea, and connected with the iris was a cyst. The cyst arose from the inner and lower portion of the iris. Dr. Noyes successfully removed the cyst by the usual operation for iridectomy.

Cysts of the iris are comparatively rare, and in the majority of cases have a traumatic origin, but in the above case no history of any kind of injury could be obtained. At the present time the amount of danger either to the affected eye, or to its fellow, by means of sympathy, is an undecided question, good authorities holding different opinions.

Rupture of Choroid, with Dislocation of the Lens into the Anterior Chamber.—The patient was a butcher's boy. He was accidentally struck with the point of a pitchfork at the inner angle of the left eye, about four lines from the corneal border.

He presented himself at the institution three days after the injury, and then his condition was found to be as follows: Lens was partially dislocated into the anterior chamber, and rested on the anterior surface of the iris. The vitreous was clear, but the retina detached in many places around its periphery. Near the seat of the injury the choroid was found to be lacerated. There was found also a choked disk.

BELLEVUE HOSPITAL, NEW YORK.

Salicylic Acid as a Disinfectant.—This agent has been recently introduced into the surgical department, and serves a much better purpose than carbolic acid. The great advantage it possesses is, that it is destitute of odor, while it thoroughly deodorizes all discharges that it comes in contact with. It is used in solution directly to the granulating surface by means of a syringe or irrigator. The solution is made by combining and dissolving the following: Salicylic acid, one part; phosphate of soda, three parts; water, one hundred parts.

Dressing by Means of the Douche.—In dressing wounds and washing out cavities, the douche, or, as it is called, the irrigator, has completely supplanted the syringe. It is the adaptation of Thudichum's douche, so that by raising the reservoir any degree of force may be obtained.

Lint-Dressing.—It is found that lint, when cut up in strips of different degrees of width, serves a much better purpose for dressing than when in small portions, constituting what is known as picked lint. The main advantage which it possesses is that, when packed into sinuses and fistulæ, it can be removed by taking hold of the end of the strip and drawing it out. When picked lint is used, much difficulty is frequently found in withdrawing it. The solution of salicylic acid is used to saturate the lint, and serves a better purpose than any other deodorizer that has been used.

Return of Carcinoma in the Opposite Breast.—The point of interest in the case is, that two years ago the right breast was removed for cancer, and at the present time the cancer has appeared in the opposite breast. There is no sign of it in the left breast, though the glands of the axilla on that side are still considerably enlarged.

Depressed Fracture of Frontal Bone; Recovery.—A boy, aged sixteen, was kicked in the forehead, and received a compound depressed fracture of the frontal bone. An examination of the bone showed it to be depressed for about two lines. When the patient entered he was in a state of collapse, and the pulse barely perceptible. After four or five hours, reaction set in. At first the patient voided his urine in bed, but for the following three days there was retention. The patient was given forty-grain doses of the bromide of potassium every few hours, and in ten days had completely recovered.

Pistol-Shot Wound; Ball passing Beneath Brain.—The patient, an Italian, is supposed to have attempted to commit suicide. The ball entered the side of the head, posterior to the orbit, and the only symptoms of injury are complete blindness of the left eye, with partial blindness of right. There is also ptosis of the left lid. When examined by the ophthalmoscope, hæmorrhagic spots are found on the optic disks of both eyes, but most extensive on the left. The ball is lodged in the head still. The inference is, that the course of the ball was below the brain, but sufficiently near to it to injure the orbital nerves. The pupils of both eyes are dilated, and do not respond to light.

CHARITY HOSPITAL, NEW YORK.

Tetanus treated by Gelseminum.—The patient received a compound fracture of the phalanx of the index-finger. On the following day it was amputated. Two days after, tetanus developed, which was first shown by the contraction of the abdominal muscles; shortly after this, all the muscles were contracted. The fluid extract of gelseminum was given in doses of twenty to thirty minims every three or four hours. This relaxed the muscles for four or five hours, but next morning the muscles of respiration were involved to such a degree as to make him cyanotic. Shortly afterward he died.

Autopsy.—The only observable lesion was congestion of the meninges all along the anterior portion of the spinal cord.

Proceedings of Societies.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 24, 1875.

DR. FRANCIS DELAFIELD, President.

Report of Microscopical Committee.—Dr. JANEWAY reported on Dr. Kipp's specimen of cancer of the bones of the head, presented at the last meeting of the Society. On examining it by the microscope, it was found to consist of trabeculæ of connective tissue, and lymphoid cells varying from one two-thousandth to one three-thousandth of an inch in diameter. These cells were arranged in long tubular processes. The inference was, that the cancer had its origin in the antrum, and from that extended to the other bones of the head mentioned in Dr. Kipp's report.

Abortion; Malpractice; Death.—Dr. FINNEL presented the uterus from a case of abortion which was recently induced by an advertising abortionist in this city. The woman was twenty-four years of age, and suspected herself, from the absence of two menstrual epochs, to be in the third month of pregnancy. She consulted a female abortionist, and had a catheter carried up into the uterus. During the next day she had a chill, and in ten days after died. The day before her death she was seen by the coroner, and had then unmistakable signs of metro-peritonitis.

Autopsy.—Evidences of recent peritonitis were found in the abdominal cavity. The right ovary contained a corpus luteum at the third month. It measured eight lines in one diameter by five in the other, and contained in its centre a clot. The ovary on the opposite side was in a state of cystic degeneration, and had attained the size of a small orange. The uterus itself was unchanged, but contained in its cavity portions of attached placenta. The only injury that could be detected was a slight abrasion of the mucous membrane of the cervix.

Polypus of Uterus.—Dr. SELL presented a polypus the size of a hazel-nut, which he had removed from the upper portion of the cervix of the uterus. The patient was thirty-five years of age, and a widow. During the past five years she had suffered from menorrhagia, and for the past three years had been very much worse. The polypus was removed by torsion, and since the operation the patient had been very much improved.

Exostoses.—Dr. E. P. Gibney presented to the Society a boy aged thirteen, who had numerous bony growths on different parts of the body. He came under observation March 15th. The history of the case went to show that there were no signs of disease up to his fifth year; and, moreover, that there was no syphilitic element. At six years of age he had scarlet fever. Last fall he began to complain of pain in his knee and hip, and it was then suspected that he suffered from morbus coxarius, but, on closer examination, this was found not to exist. There were, however, bony growths that could be detected by manipulation. They were situated on the tibiæ and femur, and on the index-finger of one of his hands was a marked protuberance. Dr. Janeway said that recently he had a patient who was affected in a similar manner, but in his case the main condyle of the femur was the seat of the bony formation.

Caries of the Vertebræ; Tubercular Disease of Kidneys and Testicles.—Dr. Otis presented specimens of tubercular disease of the kidneys, with the following history:

The patient was a man aged forty-two, who in his youth had suffered from morbus coxarius, but since that time had recovered from it to such an extent that he became an athlete. Four years ago Dr. Otis was sent for to see him, and found that he had been rowing for several hours, and after this had suffered considerable pain in passing his water. An examination of the bladder showed no signs of disease. The urine was limpid, and presented nothing abnormal. The only relief the patient obtained was from narcotics, and these had to be continued at intervals. During the following two years the patient suffered from catarrhal inflammation of the bladder, but had not previously or at any time had gonorrhœa or any venereal disease. After suffering from catarrh of the bladder for two years, he found that, after urinating, he passed some blood, and it was then suspected that he might have stone, particularly as he was in the habit of passing calcareous matter, but a thorough examination failed to give any evidences of it. In the following year he was seen by Dr. Van Buren, and again examined in vain for stone. The spasm of the neck of the bladder increased to such an extent as to make the patient's life one of torture. Two years ago he was again seen in consultation, and it was suspected that the stone might be sacculated in the bladder, and, even if there was no stone, it was considered advisable to operate for the relief of the cystitis. The median operation of lithotomy was performed by Dr. J. W. S. Gouley, but no stone was discovered, after a very careful exploration of the bladder. For several months after this the patient was very much improved but not thoroughly cured, and after a year the spasms of the neck of the bladder returned. The urination became so constant that it was necessary to wear a urinal. The patient, about this time, detected a lump in the back, in the region of the seventh dorsal vertebra, and on examination it was found to be caries. He was then placed under the care of Dr. C. F. Taylor, who applied an instrument for the cure of that disease, but the patient was unable to keep it applied for more than two weeks. With the development of Pott's disease, there was a marked improvement in his urinary trouble, and the pain then became located in a plane corresponding to the top of the hips. After removing the instrument from his back, he was placed upon a water-bed. Diarrhœa then set in and continued, in spite of treatment, for a week, and with the appearance of the diarrhœa the bladder-symptoms improved to a very marked extent, and on its cessation they grew worse. At times he complained greatly of pain in the penis, and found that he was greatly relieved by covering the head of it with snow. Two weeks ago he died of uræmic convulsions.

Autopsy.—Pus was found in the peritonæum, but there was no peritonitis. The pus was found beneath the sheath of the psoas, and came from two abscesses situated on the left side near the eighth dorsal vertebra. The left lung was adherent to the walls of these abscesses. During the life of the patient he complained greatly of cough, which could not be accounted for by physical signs; and the attachment of the lung cleared up this matter. The right kidney had undergone extensive cystic degeneration. The left kidney was three times larger, and had contained a large abscess in its pelvis, extending throughout its calices. The walls of the bladder were thickened and contracted. Behind the prostate was found a sac which was well suited to contain a stone, but none was found there or anywhere else. The right testicle contained tubercular matter, and had been affected for five years. The supposition at first was, that it was due to the irritation caused by the spinal disease. The PRESIDENT, after examining the specimens, said that he considered the kidney and testicle to have undergone tubercular inflammation. In answer to a question, he said that the tubercular disease was usually primary. Dr. Otis said that the incision into the bladder was kept open for a month.

Tubercular Disease of Kidney.—The PRESIDENT presented microscopical specimens obtained from a case of tubercular disease of left kidney—ureter, seminal vesicles, prostate, and testicles.

The patient was a man aged twenty-six. He entered Roosevelt Hospital April 1, 1874, with a history of having been hit by a book in the left testicle about a year and a half before. This was followed by inflammation and suppuration, which continued for six months. The left scrotum then filled with a smooth, globular tumor, and it was difficult to say whether the disease was syphilis or scrofula.

June 3d.—He suffered from difficulty in speaking.

6th.—Continued much the same.

9th.—Began to vomit.

13th.—Died comatose.

Autopsy.—The left kidney, ureter, seminal vesicles, prostate, and testicle, were in a state of tubercular change. The bladder contained pus. The lungs showed evidence of chronic bronchitis.

Brain.—The dura mater being removed, the pia mater was found to be dry and dull in appearance. Beneath the pia mater there were many points which were suspected to be gummy tumors. Some of them were cheesy, others gelatinous, and composed of fibrine and large, round cells. They were situated at the union of the convolutions, and dipped down between them. The patient gave no history of venereal disease, and the important question to settle was whether these growths were in reality syphilitic in their origin, or similar in character to the disease of the testicle. The microscopical specimens which Dr. Delafield presented were derived from these small tumors in the brain.

Death after Delivery, without any Lesions to account for it.—The President recited the history of the case of Lizzie Stern, who died recently on board the steamer Bellevue, after being delivered of a child. She was taken to the steamer by the ambulance, to be conveyed to the Charity Hospital, Blackwell's Island, and when on board of the steamer was confined. For half an hour after delivery she was apparently well, but then began to sink, and died in two hours. There was no hæmorrhage.

Autopsy.—All of the organs were in a state of health. The blood was fluid, and the heart did not contain a clot.

The point of interest in the case was the sudden death, without any obvious lesions to account for it.

Stated Meeting, April 14, 1875.

Dr. Francis Delafield, President, in the chair.

Cancer of Liver; Pneumonia.—Dr. A. L. Loomis presented, on behalf of a candidate, the following case. The patient was a woman, aged fifty-nine, and first came under observation during the month of March, 1874. She said that until three years before that date she had been perfectly well, but that three years ago she became affected with obstinate constipation, accompanied with pain in the region of the epigastrium. She was not, however, in bed at any time. She was seen again in May, when she complained again of constipation. There was then a slight loss of flesh, and at times she became excessively drowsy; occasionally this amounted nearly to coma. On examining the abdomen, an enlargement was detected in the epigastric region. Dullness was found to exist two and a half inches below the ribs on the right side, on a line with the nipple, and continued four inches to the left of the median line. The free border of the liver was smooth, and presented on its surface no nodes. At this time the diagnosis made by the attending physician was fatty liver. Two months after this, a tumor about the size of the spleen was detected in the left epigastric region. It was tender on examination, and at first was supposed to be impacted fæces, but afterward thought to be cancer, or hydatids of the liver, or malignant disease of the stomach. The patient passed away from observation, and was not seen again for six months, when the same tumor was found to exist. During the period that she had not been under observation she had not lost flesh, and there was no cancerous cachexia. During March, 1875, the patient was attacked with pneumonia, and died. On *post-mortem* examination, the left lung presented evidences of the second and third stages of pneumonia. The right lung was œdematous. The liver extended three inches below the ribs and six inches to the left of the median line. In the liver, and projecting above its surface, was a tumor the size of the closed fist, and, on making a section of it, a small node was found in its interior. On microscopical examination, this was found to present the characteristic appearances of cancer.

Pott's Disease; First Stage.—Dr. F. A. Otis presented, for a candidate, a specimen which had been removed from the patient to whom he referred in the last meeting, while speaking of his case of Pott's disease with tubercular disease of kidneys. The patient was aged forty-two, and four years before his death complained of severe cystalgia. The candidate presented an extensive paper along with the specimen, in which he said that the point of interest was that it is but seldom that an autopsy is seen so early, when the disease is so limited and the deformity so slight. In referring to the disease in an advanced state, he said it was astonishing the amount of tolerance the spinal cord showed when surrounded with diseased bone and bathed in pus. He found that, out of three hundred and fourteen cases in private practice, only eleven and one-fifth per cent. gave evidences of paralysis. Another point of interest was, the tolerance which the system showed to the disease was such, that the usual cause of death was when some of the pus found its way into some of the other tissues or cavities. On opening the chest of the case from which the specimen exhibited was removed, a fluid tumor was found on the right and left sides of the seventh dorsal vertebra, and on being opened was found to contain about an ounce of pus. The specimen was then frozen and cut into. The seventh dorsal vertebra was the only one involved, and the disease had made a beginning only on the substance of the bone. Dr. DELAFIELD said that, in hospital cases, where the treatment by support was not used, he had found paralysis a much more frequent sequel than the candidate had mentioned in his paper. Dr. LOOMIS was of the same opinion as Dr. Delafield, and found that *renal complications were very liable to develop.*

Intra-Capsular Fracture of the Femur.—Dr. SELL presented a case of intra-capsular fracture of the femur, with the following history: The patient was aged seventy-six, and slipped and fell on his right side. When seen, there was eversion of the right foot and knee. He had previously been in good health, and had no evidences of syphilis. He was unable to stand or walk, and at first there was considerable difficulty in making a diagnosis. Crepitus was discovered, but it was impossible to say whether or not it was bony. There was a difference of opinion among the medical men who saw the case: some thought it was intra-capsular fracture, others dislocation forward of the bone, others extra-capsular fracture, and others simply contusion. During the next day the patient had diarrhœa. The temperature was 99. On the third day he was doing apparently well; temperature 98, pulse normal. There was no pain. He conversed cheerfully with his son, and in fifteen minutes after his son left him he died. It was impossible to obtain an autopsy to decide the cause of death, permission being given only to examine the hip. There was found an intra-capsular fracture of the femur. In the capsule was found an effusion of blood.

Fatty Degeneration of Heart.—Dr. T. E. SATTERTHWAITE presented a specimen of fatty heart removed from a man aged seventy-one. He had always lived an active life. He had suffered from acute rheumatism at one time, but had never detected any disease to be attributed to it. Some time ago, while walking on the mountains in California, he found a good deal of dyspnœa followed the exertion, but nothing further. Seven weeks ago he took a sleigh-ride of twenty-five miles, and found himself very much exhausted by it. Five weeks ago he became unconscious, but rallied quickly under the influence of stimulants. After that he found that the lower extremities became œdematous. His urine was of a specific gravity of 1012, and the quantity was about two quarts per day. He remained in a failing condition for a month, when he died. His appetite continued good up till about ten days before his death. At the autopsy the lungs were œdematous; pleura and pericardium contained bloody serum. The surface of the body was exceedingly white. On examining the heart it was found to be pale and flabby; the valves showed no evidence of disease, but the aorta was atheromatous. The wall of the left ventricle was soft, and crumbled down beneath the fingers. The right ventricle was not so much so. A microscopical examination showed that there was fatty degeneration of the muscular fibre. The fibre itself was replaced by oil and granular matter. The sarcolemma was not degenerated. The liver was small and fatty. The kidneys were small in size, lodged in fat, but not atrophied. The right kidney was soft, and showed signs of parenchymatous nephritis; the left one was normal. In answer to Dr. Loomis, Dr. Satterthwaite said no lesion was discoverable in the coronary arteries, though there might have been atheroma. Dr. DELAFIELD said it was important to settle how much fatty degeneration could be considered a cause of death. Nearly all cases have it to a greater or less extent. Dr. LOOMIS was of the opinion that the size of the cavity of the heart was an important point to be considered, and did much to influence the chances of death. In answer to a question, Dr. Loomis said he considered the diagnosis often a matter of opinion, the feeble impulse and weak first sound being the most reliable signs on which to come to a conclusion. Dr.

Delafield said that he had hoped to have another case of fatty heart presented, in which rupture of the walls took place.

Distended Gall-Bladder.—Dr. MESSENGER presented an immensely-distended gall-bladder and two kidneys, which he had obtained from a case giving the following history: The patient was a woman, aged sixty-four, and weighing about two hundred and fifty pounds. For seven or eight years she had been suffering from sciatic rheumatism and malaria. During the past four years had been an invalid, and latterly had suffered from obstinate constipation, dyspnœa, and vomiting. The urine contained albumen and oil-granules for four years before her death. Death took place from exhaustion. Two or three days before death she developed a phlegmon on the face. Dr. Messenger said he was sorry that the autopsy had to be conducted in so short a time, as he was unable to make out the exact cause of obstruction, which in all probability was located in the cystic duct. The gall-bladder was about five inches long by two and a half inches in diameter, and distended with bile. Dr. HEITZMAN examined the kidneys, and found them to present evidences of interstitial nephritis.

Congenital Laryngismus.—Dr. BURRAL presented a larynx from a child who had suffered from congenital laryngismus. The infant at birth weighed seven pounds, and when delivered was nearly completely cyanosed. The vertex was small, and there was anterior curvature of the sternum. The second and third phalanges of one hand were wanting. When born, the child had a cry much resembling the noise produced by a chicken. In a few days the voice changed and became of a croaking character. The inspiration also became lengthened and labored in character. Dr. Burral endeavored, in company with Dr. Lefferts, to obtain a view of the larynx by means of the mirror, but was not successful. On March 24th the child was attacked with spasms, and died March 26th. Dr. Dawson performed the autopsy. The larynx was found to be normal. Cases of this disease are very rare. McKenzie thinks it is due to contraction of the adductor muscles. The cause is supposed to be either some disease of the brain, or pressure on the laryngeal nerve. The child lived for fourteen days.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Stated Meeting, March 22, 1875.

Dr. Henry B. Sands, President, in the chair.

Tuberculosis.—Dr. Charles Heitzman read a lengthy paper on the above subject, giving a complete *résumé* of the different views and theories which have been advanced from the time of Laennec. He favored the view that chronic tuberculosis was in reality localized tuberculosis, and described the changes that take place in the tubercular mass. He was of the opinion that scrofula and tubercle might be considered identical in their nature. In response to a call from the chair, Dr. Francis Delafield said : "Dr. Heitzman has shown us by his able paper how far from being settled the subject of tuberculosis is. The tendency of the medical mind to-day is to travel back from the views that have been advanced in the past few years, and to adopt to a certain extent the ideas that were held by Laennec. One of the ablest writers on this subject is Rindfleisch, and, when a recent paper of his has been translated, it will tend to draw many to adopt the view that all phthisis is tubercular phthisis. For myself, the forms of phthisis do not let me follow this theory. Chronic phthisis here is chronic inflammation, and I do not think there is any reason for calling its results tubercle, for those results are modified by the characteristics of the tissue in which they occur. The most usual result of our chronic phthisis is the production of fibrous tissue, and in this respect resembles the cirrhosis referred to by many authors. We do not see much of the scrofula which is so common on the Continent, but I agree with Dr. Heitzman as to their identity. Our knowledge on all of these subjects is increasing so fast that we cannot commit ourselves entirely to any view." Dr. Jacobi agreed with Dr. Delafield that scrofula as it occurs on the Continent is rare here, and attributed it to the fact that people live better and have better surroundings in America. He held also to the view that tubercle and scrofula were identical in their nature, and thought that Rindfleisch tends in the same direction as Laennec; but, when now all phthisis was said to be tubercular phthisis, it did not mean what Laennec meant. The movement was not retrograde, as might first be supposed, but was in reality an advance.

Bibliographical and Literary Notes.

ART. I.—*Lectures on Pathological Anatomy.* By SAMUEL WILKS, M. D., F. R. S., Physician to and Lecturer at Guy's Hospital; and WALTER MOXON, M. D., F. R. C. P., Physician to and sometime Lecturer on Pathology at Guy's Hospital. Second edition. Philadelphia: Lindsay & Blakiston, 1875.

THE first edition of this work, which appeared in 1859, was composed chiefly of lectures delivered by Dr. Wilks, and embodied the results of a long series of careful observations made by him during his connection with the pathological department at Guy's Hospital. The work was recognized as one of much value, but the rapid advance in pathological science since its publication rendered a complete revision and rearrangement of its contents necessary in order to adapt it to the wants of the modern student. This revision has been most ably performed by Dr. Walter Moxon, who has drawn largely from his own experience during the time he had charge of the *post-mortem* department of Guy's Hospital, the same position that had previously furnished such abundant opportunities to Dr. Wilks. The object of Dr. Moxon has been to preserve as far as possible the general character of the work as a text-book for students, and at the same time to incorporate a large amount of new material and adapt the whole to the established views of later pathologists, especially those advanced by Prof. Virchow in his "Cellular Pathology."

The authors have succeeded in giving to students and to the profession, as the joint result of many years of clinical and pathological experience, a volume of great practical and scientific value. All the organs of the human body are taken up in order, and their various diseased conditions dwelt upon according to their relative frequency and importance. There is evidence of thorough, earnest work in every chapter, and reference is frequently made to the specimens illustrating the particular disease or malformation in question. It would have added much to the interest of the descriptions in many cases if illustrations had been given, but the authors feared they would thus render the volume too expensive for the use of students. The want is in great part compensated for by a clear and vigorous style of writing, and a felicity in giving prominence to the most important points in the pathological condition of each organ under consideration. The chapters on diseases of the heart, arteries, and veins, strike us as particularly good examples of the capabilities of the English language.

A number of lithographs illustrative of the microscopical appearance of diseased structures are placed at the end of the work. We hope at some future time to see an edition abundantly illustrated throughout, but, as no promise is given on which to base such a hope, we take pleasure in recommending the volume before us as a treasury of valuable pathological facts and observations.

The typographical and general appearance of the work is worthy of its contents.

ART. II.—*Cholera: How to prevent and resist it.* By Dr. MAX VON PETTENKOFER, of Munich. Translated (with Introduction and Appendix on the International Cholera Conference of Vienna) by THOMAS WHITESIDE HIME, A. B., M. D., etc. Revised by Dr. VON PETTENKOFER. With Illustrations and a Chart. 8vo, pp. 75. London: Baillière, Tindall & Cox, 1875.

THE English editor occupies about one-third of the volume with the "Introduction," which is for the most part an exposition of Dr. Pettenkofer's special views concerning the mode of propagation of cholera. He thinks that the soil is permeable to air, and that a circulation is constantly taking place; and when fires are used in houses a current of air is created from the ground toward and into the house; therefore, whatever noxious element the soil may contain is thus inhaled by the inmates of houses." He also thinks that the "cholera-germ will not come to maturity and assume its characteristic virulence in water any more than in a perfectly dry soil, such as the burning sand of the desert. The soil which is especially favorable to its growth is a damp one impregnated with organic matter, a situation in which it is exposed to the air as well as moisture." Why the low state of the ground-water favors the outbreak of a cholera or typhoid-fever epidemic, is explained on the supposition that an increase of air in the soil greatly increases the disintegration of organic matter, and the circulation of air upward carries the germs with it to be inhaled. This theory is supported by the fact that carbonic acid increases in the soil with the depth of the ground-water below the surface—the acid existing as a result of decomposition.

This whole ground-water theory is disputed by Lebert.[1] He claims that the germs of the disease may be spread just as effectually without reference to the ground-water as with it; and, furthermore, that fluids—stagnant water containing more or less organic nutritious matter—are the chief vehicles of the germ. Liebermeister,[2] who admits that typhoid fever is increased by a low state of the ground-water (at least in Munich), explains the occurrence on the principle that there is a certain quantity of germs in the soil; that the water supplying the wells is derived from this soil; and that the more water contained in the springs and wells, the smaller will be the contained proportion of poisonous germs; consequently, when the ground-water is very low, the proportion of germs in the drinking-water is increased and the disease is the more likely to be induced. The same explanation may, if true, equally apply to cholera. Liebermeister does not think the current of air upward can be sufficient to convey the poison to the atmosphere from the depth at which it must lie in Munich. Pettenkofer entertains the opinion that the cholera-poison does not exist previously wholly in the excrements. While we question the author's theory, we can heartily indorse the hygienic rules given for the prevention of the much-dreaded disease.

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[1] "Cyclopædia of the Practice of Medicine," by Ziemssen, vol. i., p. 368, American edition.

[2] Id., p. 71, *et seq.*

Art. III.—*Cyclopædia of the Practice of Medicine.* Edited by Dr. H. von Ziemssen. Vol. ii. *Acute Infectious Diseases.* By Prof. Thomas, of Leipzig; Dr. Curschmann, of Berlin; Dr. Zuelzer, do.; Prof. Hertz, of Amsterdam; and Prof. von Ziemssen, of Munich. Translated by James C. White, M. D., Edward Wigglesworth, Jr., M. D., Edward W. Schauffler, M. D., A. Braton Ball, M. D., J. Haven Emerson, M. D., George H. Fox, M. D., Edward Frankel, M. D., and John C. Jay, Jr., M. D. Albert H. Buck, M. D., Editor of the American edition. Royal 8vo, pp. xii.–751. New York: William Wood & Co., 1875.

In the January number of this Journal we had the pleasure of reviewing the first volume of the Cyclopædia. The second has now appeared, continuing the consideration of the acute infectious diseases, and we are glad to give as favorable an opinion of its merits as we then expressed of the former volume. The authors of this volume are for the most part young men, but the notice of their lives given by Prof. von Ziemssen in their biography, on pages v.–vii., is highly favorable, and their respective portions in the book will show for themselves, and place the authors in the front rank of didactic writers.

Prof. Thomas contributes the articles "Varicella," "Measles," "Rubeola," and "Scarlet Fever." Rubeola, or Rötheln —German measles—is very well described. The author draws the distinction between it and measles, but fails to consider it as distinct from roseola; hence, we infer he considers the last-named affection as identical with it. The authorities are not in entire accord upon this point, some confounding Rötheln with measles, and others with roseola, while others distinguish between the three. Trousseau, to whom the author alludes, in describing rubeola, is evidently describing a disease different from that recorded by Prof. Thomas; while the latter describes a typical case of Rötheln, the former plainly describes what Flint[1] calls roseola: "The circumstance which at once distinguishes rubeola from measles is the absence in the former of catarrh (ocular, nasal, and bronchial), an essential prodromic phenomenon of morbillous fever."[2] Roseola is distinguished by both Flint and Tilbury Fox[3] by the absence of catarrhal symptoms. Flint does not describe Rötheln, while Aitkin,[4] Steiner,[5] and Meigs and Pepper,[6] describe Rötheln as distinct from measles, but do not describe roseola. Roberts[7] and Tilbury Fox[8] distinguish between measles and rubeola, or Rötheln, and between the latter and roseola. In an epidemic occurring in Western New York during the latter part of the winter of 1871–'72, the reviewer observed a large number of cases answering to the author's description of rubeola, or Rötheln. Catarrhal symptoms existed in a marked degree, and the rash appeared within a few hours of the onset of the febrile symptoms. Nearly every child (and some young women) in the vicinity of his residence[9] was the subject of an attack, but none were exempt from measles in consequence, that disease occurring afterward. Opportunities for observing the relationship between this epidemic and scarlet fever were not afforded, although a few children who had previously suffered from an attack of scarlet fever did not contract Rötheln. Aitkin considers the disease a hybrid of measles and scarlet fever.

Dr. Thomas has written a masterly account of "Scarlatina," covering 166 pages. In regard to the origin of nephritis scarlatinosa, the author maintains that renal catarrh is not a necessary accompaniment of scarlatina in every case. He holds that early in the disease the evidences of catarrh can only be detected in a certain proportion of cases, and that in all stages *post-mortem* appearances of nephritis are sometimes wanting

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[1] "Principles and Practice of Medicine," 1873.

[2] Trousseau's "Clinical Medicine," vol. i., p. 186, 1873.

[3] "Diseases of the Skin," second American edition.

[4] "Science and Practice of Medicine," third American edition.

[5] "Compendium of Children's Diseases," American edition, 1875.

[6] "Diseases of Children," 1870.

[7] "Theory and Practice of Medicine." [8] Ibid.

[9] Livonia, N. Y.

(page 229). Steiner, however, in his excellent treatise on "Children's Diseases," just issued, thinks that catarrh of the tubules of the kidneys is a constant condition in scarlatina, bearing the same relation to that affection that bronchial catarrh bears to measles.

In the treatment of intense fever attending either measles or scarlet fever, the author recommends the use of cold packs, or graduated baths, to reduce the temperature. This means of reduction is preferred to the large doses of veratrum, quinine, etc., in cases of children, as it is quite as effectual, and causes fewer unpleasant effects.

Curschmann's article, "Small-Pox" with its variations, including vaccination, covers nearly 100 pages. The article is excellent.

Zuelzer contributes the articles "Erysipelas," "Miliary Fever," "Dengue," "Influenza," and "Hay-Fever." In the first-named affection the author shows a strong leaning to the opinion of Trousseau that the disease is always of a traumatic origin, and is consequently primarily local, that it depends upon a *special* poison, and is contagious both by contact and by means of the atmosphere. We were very anxious to obtain the author's views upon the relationship erysipelas bears to puerperal fever; but he is not very explicit, and, as his remarks upon that connection are brief, we will quote him entire:

"*Erysipelas puerperale*, too, which was formerly described as an affection especially to be dreaded, has nothing specific. Many cases described under this name, like those of Osiander and Ratzins, correspond to *erysipelas malignum puerperale*, described by Virchow[1] as the result of ichorrhæmia, which he himself considers as phlegmonous inflammation, which extends after the manner of erysipelas. True erysipelas is not very common in childbed, and in lying-in women otherwise healthy it is without serious import. Its starting-points, according to numerous observations (Hervieux, Doublet, Cornil, and others), seem to be here, as in idiopathic erysipelas, various injuries, rents in the vagina, bruises of the vulva, eczema of the nose, an angina," etc. (pp. 475, 476).

The author is very skeptical as to the value of the specific or special method of treatment, but thinks the local use of turpentine and the internal administration of tincture of iron worthy of trial. It should be, in his opinion, treated on general principles, stimulating in adynamic or rapidly-spreading cases, or when it occurs in old people.

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[1] Virchow's *Archives*, xxiii.

Hertz devotes about 125 pages to the consideration of "Malarial Diseases." While discussing the etiology, and after presenting the various views, he says (page 585): "None of these views have as yet been established by sufficient proof; and even the supposed microscopic vegetable organisms of low grade, the spores and algæ, with regard to the influence of which in producing malaria so much has been said, lack, as yet, all practical confirmation." The remarks of the author under the head of "Analysis of the Individual Symptoms" are especially interesting. There is nothing very new recommended for the treatment of this class of diseases.

Ziemssen occupies nearly 50 pages in treating of "Epidemic Cerebro-spinal Meningitis." He considers it infectious, but not directly contagious. On page 696 it is said, "Whether the poisonous material is a *miasm* or a *contagion*, or whether the epidemic meningitis is to be regarded as a *miasmatic contagious* disease, is a question at present far from settled." Bad hygienic relations are said to act as powerfully in the germination of the contagion as they do in that of cholera. Ziemssen thinks that quinine and cold baths are useful in the treatment of the affection only in the reduction of the temperature, and this is necessary in but a small proportion of cases. Local bloodletting, ice to the head, and especially morphine, are considered very useful. Iodide of potassium is recommended later, to assist in removing deposits.

The questions considered in this volume are for the most part ably and fully discussed. A copious index with each volume makes it complete in itself in respect to those subjects treated. The translators of this volume have performed their task creditably, and the publishers have presented the book on good paper, in neat style, and free from typographical errors.

Art. IV.—*A Practical Treatise on Diseases of the Eye.* By Haynes Walton, F. R. C. S., Surgeon to St. Mary's Hospital, Paddington, late Surgeon to the Central London Ophthalmic Hospital, etc., etc. Third edition. Philadelphia: Lindsay & Blakiston, 1875. Pp. 1188.

The first edition of this concise and eminently practical work was issued in 1852. A second edition, considerably improved, appeared in 1861. The author has now called to his aid several of his younger friends, and has given the profession a large and valuable treatise on diseases of the eye. The literature of this branch of medicine has grown so rapidly of late years that not even a volume of the huge proportions of the one before us can do full justice to the subject, or satisfy the wants of the specialist in this department. Nevertheless, the work is admirably suited to the wants of the general practitioner, who will find it full and explicit in all that is of practical value. The chapter on the ophthalmoscope is contributed by Dr. Clifford Allbutt. Many of the original chapters have been entirely rewritten, and several new ones have been added in order to bring the work up to date. The scope and general character of the treatise are already so well known to the profession that an extended notice of the third edition is unnecessary. Our duty is simply to direct attention to the improvements, which are numerous throughout. The illustrations are abundant and effective, and include a number of excellent lithographs.

To the practitioner who desires a work on the eye, for daily use and reference, we cannot recommend a better one than that of Dr. Walton.

Art. V.—*Pharmacographia. A History of the Principal Drugs of Vegetable Origin met with in Great Britain and British India.* By Fred. A. Flückiger, Professor in the University of Strassburg, and Daniel Hanbury, F. R. S. London: Macmillan & Co.

The mere title of this work conveys an imperfect idea of the labor that has evidently been bestowed upon it by the authors, who had determined, as they tell us in their preface, to make an addition from their personal researches to the stock of information regarding a large class of the drugs in common use. The plan of the work is as follows: Each drug is placed under its appropriate Latin name, accompanied by such synonyms in English, French, and German, as suffice for its ready identification. A brief account is then given of its botanical origin. Next follows its history. A careful description of the drug in question is then given, and after that, its microscopic structure and its chemical composition and general characteristics. The uses of the drug are mentioned last of all, and rather briefly, as the work is not intended to encroach on either pharmacy or therapeutics. By thus limiting their field of labor the authors have been enabled to furnish a vast amount of reliable information of much interest and value; and, while they by no means ignore the labors of others who preceded them, it has been their purpose to confirm by rigid investigation all that had already been written on the subjects that came within their province. They have thus cleared up many uncertainties and corrected many errors that had found their way into works on materia medica. The extent of the volume may be judged by the fact that, though concisely written, it exceeds seven hundred pages. The publishers have presented it in an elegant style, that accords well with its scholarly and literary pretensions.

ART. VI.—*A Manual of Hygiene, Public and Private, and Compendium of Sanitary Laws; for the Information and Guidance of Public Health Authorities, Officers of Health, and Sanitarians generally.* By CHARLES A. CAMERON, Ph. D., M. D., F. R. C. S. I., Professor of Hygiene in the Royal College of Surgeons, Ireland, etc., etc. With Thirty-five Illustrations. Dublin: Hodges, Foster & Co.; London: Baillière, Tindall & Cox, 1874.

THIS work is a very able treatise on sanitary science, adapted alike to the wants and comprehension of professional and non-professional readers. It contains a large amount of valuable information on such eminently practical subjects as the heating and ventilation of dwellings, the water-supply, the disposal of refuse, the arrangement of sewers and drains, disinfection, quarantine, the best methods of constructing schools and other public buildings, the detection of adulteration in foods, the relative value of different articles of diet, the use and abuse of stimulants, the most suitable kinds of clothing under various circumstances, etc. The author has had a large personal experience in all matters relating to public health, and his opinion carries with it much weight.

The sanitary laws of Ireland are given at length, occupying a considerable portion of the volume, and in many respects are specially adapted to the sanitary necessities of that country. Those laws, however, from a scientific point of view, have a general interest for the profession and for all who are interested in promoting the public health and welfare.

Art. VII.—*A Treatise on Cutaneous Medicine and Diseases of the Skin.* By H. J. Purdon, M. D., Physician to the Hospital for Skin-Diseases, Belfast, etc., etc. London: Baillière, Tindall & Cox, 1875. Pp. 272.

Dr. Purdon is already well known as an authority on dermatological matters, by his numerous and valuable contributions to the medical journals on skin-diseases. What he here puts in book-form consists either of lectures delivered by him at the Belfast General Hospital, or essays and papers which appeared in the medical journals, combined with extensive quotations from treatises on diseases of the skin, especially those by McCall Anderson, E. Wilson, T. Fox, Milton, and Dr. Pullar's translation of Neumann. Free use has also been made of the *Journal of Cutaneous Medicine*, no longer in existence. He divides his subject into twenty-three chapters, which, however, are neither arranged after a histological, clinical, nor any other classification. Commencing with an historical sketch of dermatology, and mentioning some of the attempts at classification, without following any, he briefly describes the pathological relations of the skin. The acute exanthemata are not included. The majority, however, of skin-diseases proper are more or less fully described, while a considerable number are very summarily dismissed. This makes the work a very imperfect one. One chapter is devoted to Addison's disease. He believes deposition of pigment depends on the influence of the ganglionic nerves, and that in Addison's disease it is the solar plexus which is involved. Dermatalgia, a neuralgic affection of the skin, is well described. The chapter on parasitic diseases is good. He agrees with those who believe in the parasitic origin of many skin-diseases. He believes the different varieties of tinea do not arise so much from a difference in the fungus as in the nature of the soil and seat upon which they are found. He has seen five cases of occasional recurrence of tinea circinata and favus on the same body: "In one case, that of a boy, aged seven years, tinea circinata existed on the neck and chin. In the centre of one of the rings were several well-marked favus-cups. On the chin the disease had assumed a tubercular character, and, if the part had been covered with hair, would probably have been called sycosis parasitica." He believes there is only one fungus, the different appearances observed in each separate affection being due to the state of growth of the cryptogam, soil, and patient's constitution. The chief value of Dr. Purdon's work is that it gives the views of the principal authorities on the nature and cause of the diseases treated of in the work. We regret that the author does not express his own views frequently enough. Fortunately, however, he is not one of those who believe "I am the first dermatologist in this country," who give *their* views *à satiété* instead of the pure original. On account of incompleteness of description and unsystematic arrangement, the work is useless as a text-book, but to those specially interested in dermatology it is to be highly recommended, and will prove very instructive.

Art. VIII.—*The Maintenance of Health. A Medical Work for Lay Readers.* By J. Milner Fothergill, M. D., M. R. C. P. New York: G. P. Putnam's Sons, 1875. Pp. 366.

Dr. Fothergill has written a work far above the average of those addressed to the public on subjects connected with the preservation of health. We do not recall an instance in which so successful an effort has been made in this direction. The introductory chapter alone is enough to invite the reader, lay or professional, to a careful perusal of the whole volume. The author takes up successively the manifold changes of the human system in youth, maturity, and advanced age, showing the chief dangers peculiar to each period, and throwing out valuable suggestions for their avoidance. The subjects of food and clothing are treated in separate chapters. The important subject of stimulants and tobacco is disposed of in a manner at once so brief and comprehensive, so liberal and convincing, as to form a refreshing contrast to the accustomed sermons on that text. A fair share of attention is given to the effect of various occupations on health, to overwork, mental strain, and general hygiene ; and a short chapter is devoted to the immediate treatment to be adopted in certain emergencies. We earnestly recommend the work as one of remarkable value and interest, by no means limiting the recommendation to the non-professional reader, for whom the author modestly designed it.

Art. IX.—*On the Treatment of Fistula and other Sinuses, by Means of the Elastic Ligatures. Being a Paper (with Additional Cases) read before the Medical Society of London, November*, 1874. By William Allingham, Surgeon to St. Mark's Hospital for Fistula, etc. London : J. & A. Churchill, 1875. Pp. 47.

This pamphlet has already appeared in the *Medical Press and Circular*, with the exception of a few additional cases and observations. Dr. Allingham is so well known in connection with the subject of fistula in ano, that the profession will be glad to have his views on the use of Prof. Dittel's elastic ligature in the treatment of that disease. The author believes that it has several important advantages over the knife, and he substantiates his claims by a number of illustrative and instructing cases.

Art. X.—*The Diseases of the Stomach; being the Third Edition of the Diagnosis and Treatment of the Varieties of Dyspepsia.* Revised and enlarged. By Wilson Fox, M. D., F. R. C. P., F. R. S., Physician Extraordinary to Her Majesty the Queen, etc., etc. With Illustrations. Philadelphia: Henry C. Lea, 1875. Pp. 284.

The previous editions of this treatise on diseases of the stomach having been received with much favor, the work in its present improved form stands in no need of special recommendation. It deals concisely with all the more common forms of disease of the stomach, whether purely local, or symptomatic of other derangements of the system. The author appears to have no theories to advance, but devotes himself seriously to the task of describing the various forms of disease, with direct reference to their cure or relief by treatment. The work belongs to the class of practical hand-books; and such books are always acceptable to those whose time for reading is limited, or who desire for speedy reference a summary of what has been more exhaustively studied elsewhere.

Art. XI.—*The Treatment of Nervous Diseases by Electricity. A Review of the Present Extent of Electrical Treatment, with Indications for its Employment.* By Dr. Friedrich Fieber, Instructor at the University and Chief of the Special Division for Electro-Therapeutics and Inhalations of the K. K. Hospital of Vienna. Translated from the German by George M. Schweig, M. D. New York: G. P. Putnam's Sons, 1874. Pp. 64.

The author of this little treatise bases his claim to an opinion on the treatment of nervous diseases on his observation of cases that "may be numbered by tens of thousands." He has confined himself, however, to pointing out the particular class of diseases that are most likely to derive benefit from the use of electricity, adding some practical hints as to the best method of procedure in given cases. He appears to have had remarkable success in the management of a great variety of nervous affections.

Art. XII.—*Health: A Hand-Book for Households and Schools.* By Edward Smith, M. D., F. R. S., etc. New York: D. Appleton & Co., 1875. Pp. 198.

The professional reader can hardly take much interest in a small work of this kind, written exclusively for the use of the public, and skimming lightly over a wide range of subjects. It is important to know, however, whether such books are of a character to be safely recommended for general perusal. We are glad to say that, as far as it goes, Dr. Smith's work is a very good one, and well suited to the class for whom it is intended, though not full or complete enough in details for those who wish to give much serious attention to hygienic subjects.

Books and Pamphlets Received.—Catalogues and Annual Announcements of the following colleges: Jefferson Medical College, Philadelphia; Detroit Medical College; Medical Department of the University of Vermont, Burlington; Medical College of the Pacific, San Francisco; Woman's Medical College of Pennsylvania.

Discourse Commemorative of the Life and Character of Alexander Hodgon Stevens, M. D., LL. D., late ex-President of the New York Academy of Medicine, etc. Delivered by Appointment of the New York Academy of Medicine, May 25, 1871. By John Glover Adams, M. D. New York: A. D. F. Randolph & Co. Pp. 42.

Third Annual Report of the Visiting Committee for Bellevue and other Public Hospitals of New York City. Presented to the State Charities Aid Association, February 1, 1875. With Report of the Committee on the Training-School for Nurses, at Bellevue Hospital.

The Elements of Embryology. Part I. By M. Foster, M. A., M. D., F. R. S., Fellow and Prælector in Physiology in Trinity College, Cambridge, and Francis M. Balfour, B. A., Fellow of Trinity College, Cambridge. London: Macmillan & Co., 1874. Pp. 272.

Transactions of the Texas State Medical Association. Sixth Annual Session, 1874. Held in Dallas, April 7th to 10th. To which are prefixed the Proceedings in Houston in 1872, and in Waco in 1873, not hitherto published. Houston, 1874. Pp. 210.

On the Excretion of Nitrogen in the Urine. By J. Byrne Power, L. K. and Q., C. P. I., Physician to St. Michael's Hospital, Kingston, etc., etc. Reprinted from the *Dublin Journal of Medical Science*, February, 1875.

Clinical Studies with Large, Non-emetic Doses of Ipecacuanha. By Alfred A. Woodhull, Assistant Surgeon U. S. A. Reprinted from the *Atlanta Medical and Surgical Journal.*

St. George's Hospital Reports. Edited by John W. Ogle, M. D., F. R. C. P., and Timothy Holmes, F. R. C. S. Vol. vii., 1872–1874. London: J. & A. Churchill, 1875.

Transactions of the Obstetrical Society of London. Vol. xvi. For the Year 1874. With a List of Officers, Fellows, etc. London: Longmans, Green & Co., 1875.

Fifth Report of the New York Ophthalmic and Aural Institute. For the Twenty Months beginning May 14, 1873, and ending December 31, 1874.

Transactions of the New York Odontological Society. Special Meeting, December 14–16, 1874. Philadelphia: S. S. White. Pp. 169.

Sixth Annual Report of the State Board of Health of Massachusetts, January, 1875. Boston: Wright & Potter. Pp. 379.

Proceedings of the Academy of Natural Sciences of Philadelphia. Part III. October, November, and December, 1874.

Cancer and its Treatment. By Daniel Lewis, M. D. Reprinted from the *American Practitioner*, December, 1874.

Phosphorus: Its Claims as a Therapeutic Agent. By William Mason Turner, B. Ph., M. D., Philadelphia.

Third Annual Report of the Roosevelt Hospital, New York. From January 1 to December 31, 1874.

Reports on the Progress of Medicine.

PHYSIOLOGY.

PREPARED BY GEORGE B. FOWLER, M. D.

[CONCLUDED FROM OUR LAST ISSUE.]

The Influence of Different Gases on the Solubility of the Red Blood-Corpuscles.—L. LANDOIS (*Centralblatt*, No. 27, 1874. Abstract in *Journal of Anat. and Phys.*, November, 1874).

If different portions of the same blood are treated with CO_2, oxygen and nitrous oxide, the red corpuscles exhibit great varieties regarding their solubility. CO_2 has the greatest dissolving power for them, and will cause their solution with certain other reagents which otherwise could not dissolve them.

The author also made microscopic observations of the formation of fibrin from red blood-corpuscles. He says, if a drop of defibrinated rabbit's blood is placed in a drop of frog-serum, the corpuscles aggregate together and adhere. They soon become globular, and those corpuscles lying on the periphery allow the blood-coloring matter to escape. This discoloration gradually extends toward the centre of the drop, and at length only a colorless stroma remains. This stroma is very tough and viscid. At first the contours of the cells can be seen, but, when agitated a little, all such appearances disappear, and viscous stripes and fibres are seen. The author calls this *stroma-fibrin* in contradistinction to *plasma-fibrin*, which is formed without solution of the globules. The coagulations occur sooner the more venous the state of the blood; and animals in a state of asphyxia, in whom heterogeneous blood was introduced, showed the most extensive coagulation. If dissolution of the cells occur in transfusion, of course extensive coagulations take place.

Albert Schmidt (*Centralblatt*, No. 46, 1874) has examined the heart-blood of Guinea-pigs and frogs spectroscopically with exclusion of air, and has also tested the reducing power of different tissues upon blood.

He finds that venous blood, under normal conditions, contains oxygen, and all the blood in the body contains oxygen some hours after death by usual means. The cardiac blood of grown animals contained no oxygen after death from drowning, strangulation, puncture of the medulla, blows on the head, rarefied air, hot air, poisoning with nitro-benzol, chloroform, alcohol, arsenuretted hydrogen, iodine, physostigmin, strychnine, quinine, nicotine.

He continuously tetanized a frog's muscle in blood outside the body, and found that the blood lost its oxygen quicker than by contact with a quiet muscle, but not so quick as with a dead muscle. Brain and liver substance withdraw the oxygen from a watery solution of blood very rapidly, the temperature being 35° C.

Fungi cause a rapid reduction and subsequent changes in the spectrum, such as produced by weak acids.

Quinine prevents the reduction by fungi, but not where brain and liver tissue are used.

The Rôle of the Gases in the Coagulation of the Blood.—MM. Mathieu and Urbain, in a paper read before the French Academy of Sciences September 14, 1874, state, as a result of a series of recent experiments: 1. That carbonic-acid gas is the agent which effects the spontaneous coagulation of the blood; 2. That during life the obstacle to this coagulation resides in the blood-corpuscles, these having for their function the fixation not only of the oxygen, but also of the carbonic acid contained in the blood. They proceed to show that there are many proofs of the participation of carbonic acid in the phenomena of the spontaneous coagulation of the blood. In the act of coagulation, a considerable amount of CO_2 escapes from the blood, the quantity contained in it before coagulation being 48 or 49 per cent. of its volume, while after coagulation it only contains 40 or 42 per cent.

Again, blood coming from glandular organs, and especially from the kidneys, coagulates with difficulty or not at all; and such venous blood is found to be remarkably poor in CO_2, not containing more than from 16 to 20 per cent. of its volume. So, also, if CO_2 be removed from the blood by the air-pump, coagulation does not take place; while, if it be placed in an atmosphere of CO_2, coagulation rapidly sets in; the clots, however, are softer than those which form in air, rendering it probable that oxygen has something to do with their consistency. Lastly, certain neutral salts impede or prevent coagulation, but such salts are known to fix a notable quantity of CO_2, and virtually thus to effect its withdrawal from the blood. —*Lancet*, *October* 24, 1874.

L. Perl (Virch. Arch., 59) has performed a number of experiments on dogs, with a view to ascertain the influence of nutrition on the muscles of the heart. He divided them into two series. In the first, he bled a number of animals copiously, 3½ per cent. of the weight of the body, at intervals varying from three to seven days. In the second series, he bled them at intervals of three to four days, only taking about one per cent. of the weight of the body. In almost every case, the animals bore the operation well, and recovered without fever. Those of the second series, from whom small quantities of blood had been taken at short intervals, remained cheerful, and when killed, thirty-six or thirty-nine days after the operations, showed no signs of alteration in the muscles of the heart. Those of the first series, from whom greater quantities had been withdrawn at greater intervals, lost their appetites, became lean and dejected, and had swellings of the extremities. These all died at the end of four weeks, except one, and showed fatty hearts.

Absorption in the Large Intestine of Man.—By Prof. CZERNY and Dr. LASSCHENBERGER. (Virch. Arch., 59, ii., 1874.)

These gentlemen experimented upon a patient with an abnormal anus in the left inguinal region, resulting from a sloughing hernia. The internal surface experimented upon was about two hundred and forty square centimetres. They directed their attention principally to the absorption of injected substances.

The mucous surface was not sensitive to irritation with needles or the induced current. The constant current, however, caused contractions. The patient complained of colic when the strength of this current was very strong. An alkaline mucous secretion could be obtained in drops. The fæces were always very acid. Trials were made with the mucus collected from the intestine outside of the body, and also with substances introduced into the gut. Pieces of hard-boiled white of egg, and shreds of fibrine, remained unchanged when kept in the secretion at 35° C. two or three hours. Their edges were not even thinned or blunted. The secretion did not emulsion oil, nor convert starch into sugar.

Perforated capsules containing coagulated white of egg, and also soluble albumen, were allowed to remain in the intestine as long as ten weeks, and when examined showed no signs of digestion.

Regarding absorption, it was found that, in seven hours, from forty to fifty grains of water were taken up. Albumen in a dissolved state will be absorbed in per cent. the longer it remains, while coagulated albumen will not be absorbed at all. Irritating substances interfere with or altogether arrest absorption. Sodium chloride has such an influence, and will arrest the absorption of soluble albumen, though it itself is absorbed by the albumen. If oil be first emulsioned, it is readily absorbed. Boiled starch and glucose are also absorbed. Whether the starch was first converted into glucose could not be determined.

Value of the Salts in Food.—Forster ("Zeitschrift für Biologie," vol. ix. Abstract in *Journal of Anatomy and Physiology*, May, 1874), in order to ascertain the effects of withdrawal of the salts from food as near as possible, has experimented upon pigeons and dogs. He resorted to various methods in order to get rid of the saline ingredients of food. He used the albuminous matter which is left after the preparation of the extract of meat, which is very poor in salts. Even these were afterward washed out as far as possible, so that, finally, in one hundred grains there were:

Phos. acid anhy., dried	0.548
Calcium oxide	0.078
Iron	0.023
Potassium	0.151
	0.800

The substance, when dried, contained 14.445 per cent. of nitrogen. Traces of magnesium and chlorine were found. Caseine, from ordinary milk boiled in distilled water, was also used. Starch, from which all mineral matter was removed; and a mixture of starch and caseine, which, when dried, contained .279 of a grain of phosphoric acid in 100 grains. A prepared mixture of these substances was given to dogs and pigeons, and, when they refused it, was fed artificially.

The conclusions of the author are, that the supply of certain salts is necessary to enable the body to retain its own salts; for, when the supply sinks below a certain point, the body excretes salts in greater proportion than normally, and death ensues. Tables are given, showing that the absence of salts has no effect upon the transformation of albumen. The digestive juices gradually became inert and changed in composition. The muscles grew weak, especially those of the hind extremities in the dogs, which eventually became paralytic. The animals were at first stupid, but toward the last more than ordinarily sensitive. After a while the organs became so impaired that they were unable to perform their functions, and what food is taken is not assimilated; and the effete materials accumulating in the system, death occurs, before the experimental diet could kill directly.

Nutritive Value of Gelatine-Producing Tissues.—Prof. Voit some time ago showed that, although gelatine was not capable of entering into the composition of the body directly, yet it underwent decomposition in the blood, and thus spared albumen; and Etzinger, under Voit's supervision, has recently ("Zeitschrift für Biologie," Band x., Heft i.) endeavored to show what part gelatine-yielding tissues play in the ordinary diet of man and carnivora.

Gelatine, as is well known, is obtained by boiling from the various connective tissues, including, under this head, bone, cartilage, fasciæ, tendon, and ligamentous tissue, which are more or less common articles of consumption. It is generally held, however, that they are indigestible; and we find Frerichs stating, in his "Handwörterbuch der Physiologie," that tendons and fasciæ may frequently be found in the small and large intestines of animals fed on raw flesh, and that, in so far as they are not acted upon by the gastric juice, they exhibit a remarkable indisposition to undergo solution in the other fluids of the alimentary canal. Many researches have, however, shown that the gelatine-yielding tissues, even including the bones, are digestible. Boerhaave, Haller, Réaumur, Spallanzani, and many others, have supplied evidence on this point. Etzinger's own researches were made with artificial gastric juice, containing .3 per cent. of HCl and the glycerine extract of the stomach of the pig, which contained pepsin.

The first series of experiments were with gelatine itself, separate portions of which were acted upon by HCl alone, by pepsin without acid, and by pepsin with acid. The results were, that gelatine underwent no change for a long period in water at the temperature of the body, or in a diluted solution of HCl. On the other hand, gelatine was no longer capable of gelatinizing, i. e., of assuming the solid form, after exposure for forty-eight hours to a mixture of pepsin and acid. Experiments with the ligamentum nuchæ, in which about three hundred grains of the moist ligament were immersed in the 3 per cent. acid solution, containing glycerine and pepsin, showed that, in the course of two days, the ligaments were broken up into fibres, and that in ten days they had undergone almost complete solution. Experiments with the tendons showed that they were but slightly acted on by diluted HCl alone, the amount dissolved in eight days in such a solution being only 12 per cent.; while, when pepsin was added to the same solution, 94 per cent. underwent solution in the course of only three days.

Experiments with cartilage (fresh, unboiled costal cartilage of the calf) showed in like manner that HCl alone had little effect upon it; but it quickly dissolved in the artificial gastric juice. Lastly, experiments with bones, in which the long bones of oxen were rasped down with a file, and the coarse powder placed either in diluted HCl or in artificial gastric juice. Where the former solution was used after ten days, 80 parts per cent. of the dry bones, as a whole, were dissolved; 69 per cent. of the organic, and 86 per cent. of the inorganic constituents of the bone. When artificial gastric juice was used, 88 per cent. of the total dry bone was dissolved with 76 per cent. of the organic, and 95 per cent. of the inorganic constituents, showing a greater solution of both organic and inorganic substances.

These experiments collectively demonstrate that the gelatine-yielding tissues are largely soluble in the gastric juice. They do not, however, show whether gelatine is of much service in nutrition; and Etzinger applied himself to solve this problem, and especially to determine whether absorption of gelatine, and the products of the digestion of gelatine, and of the gelatine-yielding tissue, took place in the alimentary canal, and in the large intestines.

For this purpose careful dieting of animals was instituted, with coincident analysis of their urine and fæces. The results showed that, in the cases of tendon, cartilage, and bone alike, these substances not only undergo digestion, but are absorbed in the blood, and play an important part in nutrition.

These substances, therefore, instead of being entirely cast aside as useless articles of diet, may advantageously be consumed in moderate quantities; and an interesting fact has been incidentally noticed both by Voit in previous researches, and by Etzinger, viz., that the administration of bone-filings caused speedy evacuation of the bowels; in fact, there is no substance not producing diarrhœa which so quickly traverses the intestinal canal as this. It usually acts in about five hours.—*Lancet*, *October* 24, 1874.

Structure and Motion in the Spermatozoa.—Dr. T. H. Einer, Virch. *Physik. Med. Ges.* in Wurtzburg, vi., 3, p. 93.

The spermatozoa of dwarf flying-mice show peculiarities which have also been observed in other mammalia. The head and centre of these spermatozoa are unusually broad, and are not continuous, but are interrupted by a very fine thread, which is sometimes quite long, so that this thread can for convenience be called the throat. In the night-flying mouse this thread is .0007 of a millimetre in length. In those cases where there is no throat to be seen, there is at least a division in the body, and we can easily suppose one to exist, but our lenses are not powerful enough to reveal it. A small line is seen in the middle of the centre, continuing through the throat into the head and anterior extremity. Sometimes this fine line can be seen as a separate line as it passes through the throat-piece.

On the spermatozoa of *Vesperugo pepestrellus*, cross-lines are often seen upon the throat-piece, dividing it into three or four square pieces, held together by the fine central thread. On others of the same individual, this appearance is not seen. The addition of improper fluids arrests the motion of the spermatozoa, and then these peculiar markings are no longer seen. In other species of mammalia, something of the above structure could be found, viz., in horses, mice, and Guinea-pigs, oftener in cattle and *Erminea mustela;* also sometimes in the dog and cat.

In man he has often failed to find the line in the middle piece, but the fine joints were frequently made out in the throat-piece.

The author has not seen the central thread in the head or centre-piece of the spermatozoa of any mammalian in perfectly natural semen.

But some observations on not quite fresh semen seemed to show that the central thread in these parts was masked in the fresh state by something opaque; and in every case of dog's spermatozoa and in a single case of man's, where no central thread was seen, it could be rendered visible. On the spermatozoa of the cat and hare there is a bound-up appearance at the situation of the middle piece.

These general observations, together with the conduct of the spermatic elements of the flying-mouse, show that the central thread must be a peculiar element of the spermatozoa of mammalia; and that the middle piece consists of a central thread and of a protoplasma cloak covering the same, which cloak is very often divided into little cubes. This cloak is a remnant of the original formative cell of the spermatozoa. This appearance is common also on normal spermatozoa, and is often crowded in rumples on different parts of the middle piece, especially on the anterior end.

The tail also of mammalian spermatozoa consists of a fine thread and protoplasma covering which is wanting in the extreme end of the tail. We can follow the centre thread in some flying-mice quite to the end of the tail.

In the night-flying mouse, cat, and hare, the extreme end of the tail is thicker than the central thread, and is always, in all mammals, thicker than the very thin throat.

Secondly, the author speaks at length of the motion of these bodies, their kind and cause.

In the triton and salamander the spermatozoa have a finny edge running along the whole length on both sides. These edges move in screw-like windings commencing at back of the head and extending to the tail in quick succession, and a steady and uniform motion is imparted to the body.

In spermatozoa which have no finny edge the forward motion is produced by rapid turning upon the long axis. The extreme end of the tail goes round in circles, and in this way turns the whole body. The rate of propulsion is in proportion to the rapidity of tail-rotation. The tail does not always turn in the same direction. When turning very slow, the rotations can be counted.

The author finally says: "The motion of the spermatozoa of mammals and other vertebrates is on the principle of a screw. The streams in the protoplasma rush to the end and cause the end to rotate, whence the whole body is turned and the forward motion produced."

REPORT ON LARYNGOLOGY.

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LXIV. Borck.—Bronchocele. *St. Louis Medical and Surgical Journal*, March, 1875.

LXV. Mayer.—On Congenital Bronchocele in Thuringia. *Berlin Klin. Wochensch.*, No. 24, 1874.

LXVI. Fayer.—Bronchocele. *Lancet*, October 24–31, 1874.

LXVII. Appley.—Cystic Goitre treated by Drainage. *Philadelphia Medical and Surgical Reporter*, June, 1874.

LXVIII. Schneider.—Cystic Goitre treated by Iodine Injections. *Berlin Klin. Wochensch.* No. 15, April, 1874.

LXIX. Stoerck.—Treatment of Bronchocele; Danger of Alcohol Injections. *Wiener Med. Wochensch.*, p. 913, 1874.

LXX. Erichsen.—Cystic Bronchocele; Tapping; Injection of Iodine. *Medical Times and Gazette*, March 6, 1875.

LXXI. Berger.—Extracts from an Essay on the Anatomy, Physiology, and Pathology of the Thyroid Gland; translated by Castellanos. *New Orleans Medical and Surgical Journal*, vol. ii., No. 5, 1875.

It is the intention of the writer, in the preparation of these reports, to present to the reader as full and as practical an abstract as possible, of the literature of the subject as it appears during the preceding quarter (in the present report, this limit has been extended), selecting that which will be of interest, not only to the specialist in this department of surgery, but to the general practitioner as well.

With this idea in view, he has passed over, or simply alluded to many articles—which are purely technical in their character—and has selected for the present report only those that he thinks will be of common interest, presenting as full an abstract as the space at his command will allow, and the importance of the article demands.

An appreciation of the value of the laryngoscope, not only for differential diagnostic and ordinary purposes, in the hands of every general physician, but also for special therapeutic and operative uses by the specialist, is extending among the profession; and with the increased observation and record of the results of experience, the literature of the specialty has of late years increased markedly; and much valuable material is now, and will undoubtedly be in future, placed upon record, which, as we know, does not find a place in the general surgical reports, as at present prepared; and is thereby lost to that part of the profession to whom a very large number of the journals are not easily accessible.

The present report will, it is hoped, meet such a deficiency, and will present and preserve, in a condensed and selected form, the results of extended and careful research, through the greater number of the periodicals and journals of the day, and thereby aid the busy practitioner in his wish to keep pace with the progress of the times, by presenting for his consideration a digest of all that is new, important, or interesting in this special department of medicine.

III. It has been known for some time that growths of adenoid tissue exist in the mucous membrane of the larynx of some animals, in the form of closed follicles, but until lately it was believed that it did not occur in the same situation in man. Dr. Heitler has recently studied this subject with the object of ascertaining whether adenoid tissue exists in the human larynx; and, in all the healthy cases examined, he found the adenoid tissue to be of constant occurrence. The situations in which he found it most abundant were the ary-epiglottic folds, particularly where the squamous epithelium passes into the columnar, but it was also found constantly in the membrane covering the arytenoid cartilages. He considers that the characteristic peculiarities of the laryngeal mucous membrane are the diffuse infiltration of the sub-mucous tissue, with elements of cellular character, and of masses of adenoid tissue; and also the great number of large glands; and he believes that these peculiarities account for the frequent occurrence of ulcerations which are usually of a secondary character.

IV. M. P. Coigne published some time since, in the "Archives de Physiologie," some researches on the mucous membrane of the larynx, which are of much interest. He notices, first, the existence of a sub-epithelial reticulated layer, analogous to the lymphoid tissue beneath the mucous membrane of the small intestine; also certain lymphoid bodies, which have been hitherto unknown, similar to the closed follicles of the small intestine. Great as may be the anatomical interest of this discovery, its pathological importance is greater. For the presence of these bodies may account for the ulcerations of the larynx which occur during the course of pyrexias, such as typhoid fever. Again, the doctor has observed, on the free border of the true vocal cords, certain papillæ, which contain vascular loops and probably a nervous twig also. With the greater development of these papillæ on the anterior half of the cord, may be associated the greater frequency of papillomatous growths at this part of the larynx. Besides the above, the author describes also some follicular glands, whose ducts take an oblique direction, so as to converge toward the free edges of the vocal cords, with the manifest object of moistening a part liable to become dry. The closed lymphoid glands are situated chiefly beneath the mucous membrane of the false cords and sacculus laryngis. Further, at the free border of both true and false cords, the epithelium ceases to be ciliated, and assumes a squamous character.

IX. Dr. Marcet retains the term "laryngeal phthisis;" but employs it to cover all affections of the larynx which occur in consumption. The affection is both a symptom and an extension of a preëxisting disease; a symptom, because, when established by the laryngoscope, there is no doubt that the lungs either are or will shortly become tubercular, if not obviously so at the time; it is an extension of a disease, because as a rule (not invariably, although it may be so) the pulmonary tissue first becomes the seat of tubercular growth, mischief appearing subsequently in the larynx. In cases of laryngitis and tubercular disease of the larynx, met with in pulmonary phthisis, the doctor states that often there is no evidence of ulceration or tubercularization, but merely thickening of the mucous membrane, associated with the presence of a white, milky, probably purulent, mucous fluid, which he regards as almost pathognomonic. Tubercular growths may occur over the arytenoid cartilages, and subsequently soften, or ulceration may occur on the vocal cords, chiefly at their posterior insertions. Aphonia may be produced with very little mischief; but, on the other hand, ulceration, unless it attack the vocal cords, may be extensive, without there being much aphonia. The prognosis, where organic disease is detected in the larynx, in cases of consumption, is unfavorable.

The treatment should be local, general, and climatic. The use of strong metallic astringents is to be avoided. Applications to the larynx, of solutions of iodine in olive-oil, or bromide of potash in gum-water, relieve pain and subdue irritation. Scarifications and inhalations of iodine are also recommended in suitable cases.

X. Dr. Sawyer believes that the *local lesions in the larynx in phthisis* are mainly, if not solely, inflammatory, and wholly unconnected with truly tubercular changes in the parts. Laryngeal phthisis is always attended sooner or later by pulmonary consumption, the latter changes usually appearing before those in the throat. He divides the laryngeal changes into four stages, viz.: 1. The stage of anæmia; 2. That of tumefaction; 3. That of ulceration; and 4. That in which necrosis or caries of the cartilages may occur.

The first three of these stages are almost always met with; the last is not nearly so constant in its occurrence. The treatment which the author advises consists in general hygienic and medicinal measures: the local application of solutions of zinc, copper, and nitrate of silver; the use of counter-irritation over the front of the neck, and occasionally cataplasms, together with opium and its preparations; for the relief of the cough, various inhalations are also recommended.

XV. In a case of aneurism of the innominata, with pressure on the right recurrent and vagus, Dr. Bäumler had observed *bilateral paralysis of the larynx*, and Dr. Johnson observed the same phenomena with an aneurism of the aorta pressing on the left vagus, and recurrent. The question then arose, "What is the explanation of the bilateral palsy of the larynx which results from pressure on the vagus and recurrent nerve of one side only?" Dr. Johnson answers this question by suggesting that, while paralysis on the one side is the direct result of pressure on the recurrent nerve, that on the opposite side is due to an influence propagated through the afferent fibres of the compressed and irritated vagus to the nerve-centre, and thence through the efferent fibres of the other vagus to the muscles of the larynx on that side.

In explanation of the bilateral paralysis, induced by the long-continued irritation of the trunk of one vagus, Dr. Johnston refers to the experiments of Dr. Lockhart Clarke, and suggests that in any future case that may occur in which a bilateral paralysis of the glottis is found, associated with an aneurism, pressing on the vagus and recurrent nerve on one side only, a careful microscopic scrutiny of the medulla oblongata will probably discover in the nerve-nuclei and the commissural fibres of the spinal accessory and the vagi nerves, structural changes which will fully explain the bilateral paralysis, and thus supply the only evidence which is wanting to establish the truth of the theory.

XVI. Dr. von Hüttenbrenner, in the "Jahrb. f. Kinderheilkunde," condemns catheterization of the larynx in croupous and diphtheritic affections. He finds that, every time Weinlechner's tube is introduced into the windpipe, the child is likely to be asphyxiated. Moreover, the mucous membrane of the mouth is liable to be wounded, and a number of skilled assistants are absolutely required. The operation is never of more than temporary use, and therefore tracheotomy is to be preferred. The doctor does not deny that the operation may be useful in other diseases.

XVII. The operation for extirpation of the larynx was undertaken for the second time on November 11th, by Billroth. The patient, a man aged fifty, suffered from an epithelioma, involving the whole cavity of the larynx; there was no infiltration of the neighboring lymphatics. The patient died, five days after the operation, of pneumonia.

XVIII. To examine the posterior wall of the larynx and trachea, Löri employs the following apparatus:

He holds vertically against the posterior wall of the pharynx a large, round, laryngeal mirror, the inferior half of which forms with the superior an angle of 125° to the anterior sinus. He then introduces a second smaller mirror, the reflecting surface of which is opposed to the handle, as far as the tip of the epiglottis, and can even raise the latter when necessary, by means of it. The upper half of the large mirror serves to illuminate the larynx; the lower receives and reflects back to the eye the picture of the posterior wall of the larynx, as it is seen in the small mirror.

XIX. A rent in the mucous membrane of the larynx is, according to Stoerck, an exceedingly common result of chronic laryngeal catarrh. In this affection, the mucous membrane is swollen, and that part of it which lies in the cleft, between the arytenoid cartilages, often becomes very much so. The epithelium, covering the part, also becomes swollen and eroded, and a deep inspiration may tear the thick mucous membrane, and, once formed, the rent is apt to deepen. After a time the transversus muscle may be interfered with by the rent almost reaching it, and a permanent aphonia result from this muscle being unable to close the glottis. The subjective symptoms are often very marked, but may be very insignificant.

The doctor recommends in treatment, astringents, and that the edges of the fissure be cauterized.

XXIII. Schnitzler, in an article in the *Wiener Medical Press*, on "Diphthonia," gives the history of a case in which, during phonation, the chief tone was accompanied or immediately followed by a second, and this latter was sometimes deeper, sometimes higher, in its note. The special phenomena were briefly as follows:

When the patient sang the scale, the ear was able to detect a second tone, which occurred at the same time with the principal one, and which was exactly one-third higher in its note. This double tone was especially remarkable in the chest and falsetto notes, but between these limits the voice was clear.

The laryngoscopic examination showed a small round growth to be located on the inner edge of the left vocal cord in its anterior third, and the author thinks that the "double-tone" was caused by the division of the glottic opening into a posterior and anterior half, during phonation, by this small neoplasm, as the double opening must give two tones, and the openings being of unequal length the tones must be of different degrees.

The subject is further illustrated by the details of elaborate experiments, which go to prove the truth of his theory, and by the histories and drawings of several cases, in all of which the phenomena, described above, occurred with more or less distinctness.

XXIV. *Veratrum* has been used successfuly by Dr. C. H. Jones in a case of severe laryngitis, with threatened apnœa; dose gtt. iv. every hour. Nine doses were taken, and the effect was prompt and satisfactory.

XXVI. Schnitzler reports the following unique case: A man, after seizure and maltreatment by brigands, had lost his voice, and had been subject to attacks of laryngeal spasm.

The laryngoscopic examination gives the following remarkable picture. At the first glance nothing abnormal was observed in the larynx, but upon attempted phonation it was seen that the left arytenoid cartilage passed beyond the median line and in front of its fellow; the latter scarcely moved and had entirely lost its normal appearance. The vocal cords approximated each other during phonation, but, during the inspiratory act which followed, the cords appeared to remain fixed together, and, when abduction occurred a second later, the inner elastic edge of the right cord remained clinging to the left, and a separation or rent of the elastic portion of the cord from the muscular could be distinctly seen.

The diagnosis made was: Laceration of the right vocal cord throughout its length, the inner elastic edge being torn from the remaining muscular portion, and extending from the processus vocalis to nearly the anterior insertion of the cords, together with fracture or luxation of the right arytenoid cartilage.

The occurrence of this curious condition the doctor explains as follows: At the time of the violent attack made upon the patient, his throat was seized and the arytenoid cartilages pressed powerfully together; attempts to call for help and at the same time to obtain air called into violent action the collective muscles of the larynx, the abductors as well as the adductors, and this unnatural and powerful effort, together with a fracture or luxation of the arytenoid cartilage, which occurred at the same time, resulted in the laceration of a vocal cord, as described.

XXIX. Böcker. This article consists in the detailed histories of twelve cases of papillomatous and fibroid growths of the larynx, with descriptions of the laryngeal appearances and operative procedures. The instrument employed by the author for the purposes of extirpation was, in the majority of cases, the wire *écraseur.*

XXX. Burow in certain cases performs *section of the conoid ligament,* in preference to tracheotomy, the former operation permitting of both extirpation of the growth and access of the air to the lungs at the same time. He considers that Mackenzie errs in advising that the direct extraction should never be made except in cases where death is imminent from dyspnœa or dysphagia. Section of the crico-thyroid ligament for the purpose of extirpating a laryngeal growth—the *laryngotomie of Vicq d'Azyr*—was performed in 1865 by the elder Burow, by Mackenzie in 1869, and by the writer in 1865 and 1866.

The details of his two cases are given, and in both of them the conoid ligament having been divided from the inferior border of the thyroid cartilage to the cricoid, and the lips of the wound separated, the growths were easily seen, seized, and removed. He claims that his cases prove that polypi, even of a large size, can be extracted by this operation, in all cases in which they can be drawn down from above the glottis, and that it is not necessary that they have their seat below this region.

XXXI. In an article in the *Centralblatt für Chirurgie,* Eysell says that, in order to displace upward tumors of little mobility, lying in the lower part of the larynx, a needle may be introduced in the middle line, through the skin and membrane into the trachea, the tumor penetrated, and raised by depressing the handle of the needle, in which position it is seized by a forceps introduced through the mouth into the larynx. There is little or no hæmorrhage and no reaction. In the same way such tumors can be directly cut off by means of the needle of Schwartz used in tapping the tympanum, adhesions of the vocal cords may be cut through, and injections may be made with a Pravez's syringe into laryngeal tumors. He has succeeded in removing tumors from the larynx by this method with the needle.

XXXIII. Dr. Morf relates the history of a case of sudden death, occurring in a young soldier, aged twenty-one, who complained of slight difficulty in swallowing. Suddenly difficulty of breathing arose, and the patient became comatose and died. The autopsy showed a large polypus, with broad base, on the upper aspect of the right vocal cord.

XXXIX. Dr. Clementi reports the following very unusual case: A woman was suddenly seized on August 1st with cough, spitting of blood, and aphonia. From this time until the 15th of the same month the patient had each day violent paroxysms of coughing, with suffocative attacks. The doctor, finding no cause to account for the symptoms in his examination of the chest and pharynx, examined the larynx, and discovered a *leech* within that cavity. It was attached by its oral extremity to the superior portion of the right arytenoid cartilage, and by its anal to the posterior wall of the trachea, a little below the cricoid cartilage. He immediately attempted extraction of the leech, and after considerable difficulty succeeded. The patient recovered her voice, and respiration became unembarrassed. She stated, in explanation of the occurrence, that she had placed a head of lettuce over a vessel containing drinking-water, and that the leech had probably fallen from it into the water.

The following cases are reported in surgical literature: M. Lacretelle, in the "Nouvelle Bibliothèque," tome i., Paris, 1828, gives the history of a soldier in whom suffocative symptoms were produced by the presence of a leech in the larynx.

The work of M. Baizeau, "Accidents caused by the Swallowing of Leeches, and their Frequency, especially in Algeria," *Abeille Médicale*, 1863, p. 342, is also cited; and the article of Marcaai, who, without the aid of the laryngoscopic mirror, removed a leech, by means of a polypus forceps.

The author states that Trolard was the first to use the laryngoscopic mirror for purposes of diagnosticating and removing a leech from the laryngeal cavity—*Algérie Médicale*, 1870, No. 29. More recently (Morgagni, 1874) Dr. Massei has used the laryngoscope for a similar purpose.

XL. Annandale reports the following case: A portion of the spine of a fish was lodged in the larynx, and resisted all attempts to dislodge it by traction made by forceps introduced through the mouth, owing to the nature of the foreign body, and the fact that traction only seemed to entangle it more completely, by driving its sharp processes, which were directed upward, into the mucous membrane. Tracheotomy was then performed, and the piece of bone seized from below, by a fine pair of forceps introduced through the wound, and successfully removed, the larynx meanwhile being steadied and the bone pushed downward, by the finger introduced into the larynx, through the mouth.

XLV. Politzer concludes that all observers who have treated cases of *adenoid vegetations at the vault of, or in the pharynx*, will have discovered the uselessness of the ordinary astringent applications, such as are used with success in the simple catarrhal swellings, with hypersecretion of the nasal mucous membrane, as a curative means, and he recommends the procedures of Meyer, as the only successful and rational ones, for the cure of the affection. The first of these consists in the removal of the adenoid outgrowths or hypertrophies, by means of a small oval knife, the long handle of which is so marked that the operator is enabled to know the position of the blade in the pharynx. The method of using it is given in detail, the principal points being that, after the knife has been passed through the nostril, back into the pharynx, the finger of the left hand, introduced behind the palate, presses the blade against and over the growths; traction outward being then made on the knife by the right hand, the ring-blade cuts through the vegetations which have been pressed into it, and these latter are driven out, either through the nose or mouth by expiratory effort. The operation may be repeated several times at the same sitting. Bleeding is seldom excessive, and may be quickly controlled by cold injections, etc. This method is only applicable in those cases in which the hypertrophies are fimbriated; when the vegetations are flat, or when they are situated upon the lateral or posterior pharyngeal walls, the author employs the second of Meyer's methods, viz., thorough destruction of the growths by nitrate of silver in substance, and for this purpose a number of instruments are furnished. He prefers the simple four-sided and rough ened silver tip or probe, fastened upon a flexible handle of suitable length. The side of the instrument corresponding to that part of the pharynx to be cauterized is coated with a layer of the silver nitrate, and the instrument, suitably curved, is then passed up behind the palate, and the growths thoroughly cauterized. A day or two should elapse between the cauterizations, to permit of the sloughs being cast off; this occurs usually on the second day. The sensation of burning, etc., in the pharynx, which follows the operation, is best relieved by allowing warm water, or a weak solution of salt, to flow over the parts, through the nose. The necessary number of cauterizations will be regulated by the size and number of the growths, but the operation should be continued until no unevenness of the pharyngeal membrane is perceptible on digital examination. The author recommends this method of exploration by the finger, to the exclusion of other means, stating that mucus may often mark irregularities of the membrane and render them unrecognizable, when the rhinoscopic mirror is used, while by the finger they would be immediately detected. The introduction of the finger behind the palate produces no greater reaction, he states, than the introduction of the mirror (!). Only such growths should be crushed off, by means of the curved pharyngeal forceps, as are isolated and have small bases.

The author has had no experience with the galvano-caustic treatment of this affection, the above methods proving in his hands both satisfactory and successful.

XLVI. Ozæna, according to D'Azambuja, is a chronic, fetid coryza, or, in order that there be an ozæna, we must have a chronic inflammation of the pituitary membrane or the subjacent tissues, and a fetid breath. The ozæna is almost always of a syphilitic or scrofulous nature ; more rarely it exists without a known cause, or occurs as the result of injuries, or the presence of foreign bodies or calculi in the nasal fossæ, or follows the destructive lesions occurring as complications to convalescence from severe fevers; and still more rarely it is of an herpetic nature (?).

There exists a simple, non-ulcerative ozæna and a fetid, chronic coryza, without ulceration. This coryza presents itself under two forms, a moist and a dry, and occurs especially with the scrofulous diathesis. It is doubtful whether it ever occurs in syphilis. There is also an ulcerative ozæna without osseous lesions, which is caused either by syphilis or scrofula. The scrofulous ulcerations are superficial to the deeper parts, and are much more irregular than those of a syphilitic nature. The syphilitic ulcerations arise from two different causes: 1. Eruptions analogous to those seen upon the skin, and which on this account may be called syphilides of the nasal fossæ. 2. By a breaking down of syphilitic gummy tumors.

The gravest form of ozæna is that which is caused by lesions of the bony parts (caries and necrosis). The ozæna with necrosis is more frequent in syphilitic than in scrofulous disease.

Treatment of an ozæna should be both general and local: the general treatment is that of scrofula or syphilis. The best method of local treatment consists in, first, the use of the douche; second, the direct cauterization of the ulcerations. This method gives excellent results—even in the necrotic form of ozæna. The surgical treatment (Rouge, of Lausanne) gives more rapid results, but it has its dangers (phlebitis, purulent infection, incomplete operation), and ought not to be undertaken except in cases where the patient rebels against the above and simpler treatment pursued methodically for a long time.

NOTE.—Authors of papers, etc., will assist in the preparation of these Reports by forwarding separate or marked copies of their articles—to the JOURNAL—addressed, "Report on Laryngology."

Translations.

Duplex Vagina as an Impediment to Labor.—Prof. Alois Valenta reports the case of a primipara, twenty-six years old, in whom the following condition was discovered only after the cervix had been dilated half an inch by the advancing head: On examination with the finger introduced along the left wall of the vagina, the whole cervix could be felt, while, when it was introduced along the right wall, it was hardly possible to touch the uterine orifice. Closer examination of the genitals revealed a double vagina. An exceedingly vascular, vertical ridge, four lines in thickness, extended from behind the urethral opening up to the cervix, and terminated in a crescentic margin where the two vaginæ communicated. The septum offered a direct impediment to the progress of the labor, and, when the outer walls of the vagina were held apart by retractors, the head could be observed pressing against the sickle-shaped sharp margin of the septum. An operation was performed when the os had dilated to three inches. The septum was divided by blunt-pointed scissors, the incision being rather toward the rectal wall; only one ligature was applied to the posterior stump, as the advancing head acted as a tampon. To prevent gangrene, the ligature was removed on the third day, and every thing had healed on the fifteenth day. No elevation could be detected on the anterior wall; on the posterior wall there remained a ridge of three lines in height. No abnormality of the uterus could be discovered.—*Memorabilien*, August, 1874.

E. F.

Emphysematous Cysts of the Vaginal Mucous Membrane.—Braun and Winkel have observed tumors of the vagina which produced emphysematous crepitation. Prof. K. Schroeder appears to have been the first to discover emphysematous tumors, or rather cysts, in this location; he removed two small tumors from the vaginal mucous membrane, and by opening them under water ascertained that they contained a gas. Dr. Kormann (*Schmidt's Jahrbuch*) believes that these tumors are follicular cysts from whose serous contents gas has developed. —*Gaz. Hebdomadaire*, 41, 1874. E. F.

Rupture of the Bladder.—A case of spontaneous rupture of the bladder was recently observed by Colombat, of Marseilles. A man, twenty-eight years of age, who had had gonorrhœa twice, had retention of urine. While making an ineffectual attempt to evacuate his bladder, he suddenly perceived a sensation as if something had burst in his abdomen. A feeling of relief was first experienced, but excessive pain soon commenced in the bowels. On admission to the hospital the diagnosis of the rupture of the bladder was made, not only from the above symptoms, but also from the fact that only a small quantity of urine flowed from the catheter, although the man had passed no water for two days. The patient died in three days ; and, on section, a rent about the size of a half-franc was found on the anterior surface of the bladder, two or three millimetres from its summit. The edges of the rupture presented a ragged and discolored appearance. The prostate was the seat of an immense abscess.—*Marseille Méd.* and *Uegeskrift für Laeger*, August, 1874.

Miscellany.

Appointments, Honors, etc.—Dr. Henry F. Walker has been appointed to the position on the surgical staff of Bellevue Hospital left vacant by the resignation of Dr. Ernst Krackowizer. Dr. R. L. Hodgdon has been chosen President of the Obstetrical Society of Boston. Dr. Alexander McDill succeeds Dr. Mark Ranney as Superintendent of the Wisconsin State Hospital for the Insane. Dr. Waddell, having been elected to Parliament, has resigned the position of Medical Superintendent of the Lunatic Asylum at St. John's, N. B., which he has held for twenty-five years. A Hospital for Children has been established in Toronto. The Rev. T. C. Trowbridge, formerly of Michigan, now a missionary in Turkey, proposes to establish a college, with a medical department, at Aintab. Dr. Wm. T. Bacon has been appointed Curator of Charity Hospital, in place of Dr. F. R. S. Drake, resigned. At the last meeting of the Board of Trustees of the University of Pennsylvania, Dr. James Tyson was elected Professor of Pathology, Dr. Louis A. Duhring Professor of

Diseases of the Skin, and Dr. H. C. Wood Professor of Diseases of the Nervous System, in the University Hospital. Prof. T. H. Gerrish has resigned the chair of Physiology and Materia Medica and Therapeutics in the University of Michigan. Medical Inspector Delavan Bloodgood, U. S. N., has been assigned to duty at the Brooklyn Navy-Yard, and Surgeon C. J. S. Wells to the iron-clad steamer Roanoke, in New York harbor. Medical Director F. M. Gunnell, lately on special duty at the New York Station, is ordered to act as member of the Naval Medical Examining Board at Washington, D. C. Dr. R. N. Taylor, of Maysville, Ky., won the prize offered by John P. Morton & Co., publishers, of Louisville, Ky., for the best thesis on some subject connected with materia medica. The title of his paper was "The Physiological Action of Gelseminum Sempervirens."

Dr. Eduard Hitzig, of Berlin, has been elected to the chair of Psychology in the University of Zurich. Dr. Wm. Stokes has been reëlected President of the Royal Irish Academy. Mr. E. Ray Lankester has been appointed Professor of Comparative Anatomy at University College, London. Sir Geo. Burrows has been elected, for the fifth time, to the presidential chair of the College of Physicians, of London. Prof. Heschl, of Grätz, has been appointed successor to Rokitansky in the chair of Pathological Anatomy. Wm. W. Colles has been elected Regius Professor of Surgery in the University of Dublin, in place of the late Dr. Robert Adams. Prof. Zeissl, of Vienna, has received the cross of Commander of the Russian Order of Stanislaus, in recognition of his services to science. Dr. Leopold Wittelshöfer, editor of the *Wiener Medizinische Wochenschrift*, has been made a knight of the Order of the North Star, by the King of Sweden and Norway. The German Association of Naturalists and Physicians will hold their next meeting September 18th, at Grätz, Styria.

The Late Dr. Edward Delafield.—At a stated meeting of the New York Academy of Medicine, held on the 4th of March, the following resolutions were unanimously adopted:

Whereas, On the 13th day of February, 1875, Edward Delafield, M. D., an original Fellow of this Academy, departed this life, at the advanced age of eighty-one years: therefore—

Resolved, That this Academy would enter upon its minutes its recognition of the great services rendered by him to the medical profession during his long career, by his wise counsels, his successful and faithful discharge of important trusts committed to him, and, above all, by the consistent example of his daily life. His career of a learned instructor, his wise administration of the affairs of a great educational institution, his regard for the suffering, as evinced by his establishment of the "Society for the Relief of Widows and Orphans of Medical Men," and as chief executive officer of the Roosevelt Hospital, all bear testimony to his high intelligence, no less than to the great benevolence of his heart, while his honorable conduct, his humane and sympathetic deportment, ennobled the profession. He has thus left us an example, worthy of all imitation.

Resolved, That this minute, duly certified, be communicated to the family of the deceased, and that a copy of it be published in the *New York Journal of Medicine* and in the *New York Medical Record*.

(Signed) J. G. Adams, M. D.,
Willard Parker, M. D.,
T. M. Markoe, M. D.,
Committee.

At an adjourned meeting of the Board of Trustees of the College of Physicians and Surgeons, held on February 18th, the following preamble and resolutions were unanimously adopted:

Whereas, Since the last meeting, Edward Delafield, M. D., president of this college, departed this life on February 13, 1875, at the advanced age of eighty-one years: therefore—

Resolved, That this Board enter upon its records its high appreciation of the long-continued and valuable services rendered by him to this college. One of its earliest graduates, he served the institution as professor from 1826 to 1839; subsequently as trustee and vice-president, and since 1858 as president, until the time of his decease. This Board would express their deep sorrow at his departure.

Resolved, That, during his long professional career, in which he attained a high rank as a learned instructor, no less than as a skillful and successful physician, his honorable conduct and high moral worth, his humane and sympathetic deportment, ennobled the profession of which he was an honored member.

Resolved, That the high reputation to which this college has attained, as one of the great medical schools of our country, is in no small degree to be attributed to his wise administration.

Resolved, That a copy of these resolutions, duly certified, be communicated to the family of the deceased.

Resolved, That these proceedings be published in the *New York Journal of Medicine* and in the *Medical Record*.

(Signed) John G. Adams, M. D.,
Gurdon Buck, M. D.,
Cambridge Livingston, M. D.,
Committee.

At the annual meeting of the Alumni Association of the College of Physicians and Surgeons, New York, held February 24, 1875, the following preamble and resolution were unanimously adopted:

Whereas, The Alumni Association of the College of Physicians and Surgeons in the City of New York, while mourning the loss of one of its oldest and most distinguished members, Dr. Edward Delafield, of the class of 1816, takes pleasure in testifying to the record of so honorable and successful a professional life. Respected by all for his uprightness of character, honored by his colleagues for his long and eminent career as a physician and as president of our Alma Mater, his name will be remembered by this Association with especial gratitude and reverence, for to him, more than to perhaps any one else, does this organization owe its existence and its capacity for usefulness. Be it therefore

Resolved, That we transmit to the family of the deceased a copy of this expression of esteem and sympathy on the part of the Alumni Association, and give proper publicity to the same.

Graduates of 1875.—We have received the following in addition to the list published in our last issue:

Jefferson College, Philadelphia	170
University of Louisville	113
Medical College of Ohio	102
University of Pennsylvania	100
St. Louis Medical College	71
University of Maryland	50
Chicago Medical College	45
University of Louisiana	41
Mobile Medical College	34
University of Wooster, Ohio	30
Cincinnati College of Medicine and Surgery	28
Medical College of Virginia	11
Texas Medical College	10
University of California	9
Kansas City (Mo.) College of Physicians and Surgeons	8
Woman's Medical College, Chicago	8

State Medical Associations.—The eighth annual meeting of the Mississippi State Medical Association was held in Vicksburg, April 7th. The Medical Association of Alabama held its annual session in Montgomery, April 13th. The Michigan State Medical Society will hold its ninth annual meeting in Detroit, June 9th. The Kansas State Medical Society will meet in Topeka, May 19th. The Missouri State Medical Society met in Jefferson City, April 20th. The New Jersey State Medical Society will meet in Atlantic City, May 25th. The South Carolina Medical Association met in Charleston, April 13th. The Medical Association of Georgia met in Savannah, April 21st. The North Carolina Medical Society will meet in Wilson, May 18th. The Tennessee Medical Association held its forty-second annual session in Nashville, April 6th.

American Medical Association.—The twenty-sixth annual session of this Association will be held in Louisville, on the 4th inst.

The following amendments to the Plan of Organization are to be acted upon:

By Dr. H. B. Baker, Michigan:

> "The officers of the several sections shall be nominated by the section in and for which said officers are to serve."

By Dr. Adams Jewett, Ohio:

> "The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as shall have received the appointment by unanimous vote, and of all others who, being members in good standing of any State or local medical society entitled to representation in this body, shall, after being vouched for by at least three members, be elected to membership by a vote of three-fourths of the delegates in attendance, and shall continue such so long as they remain in good standing in the body of which they were members when elected to membership in this Association, and comply with the requirements of its by-laws."

Hospital Staff Appointments.—The following appointments have been made:

Bellevue Hospital.—Junior assistants, Drs. D. L. Wallace, C. P. Smith, H. M. Silver, C. H. Thomas, J. C. Kendall, J. J. Cochran, R. T. Hine, H. Goldthwaite.

Charity Hospital.—Junior assistants, Drs. J. H. Swasey, F. Trask, T. W. Fullilove, J. T. Sarew, Orlando Pinto.

Reception Hospital, Ninety-ninth Street.—Clifford M. Steele, M. D., senior assistant physician; Frank B. Bennett, M. D., junior assistant physician, to fill vacancies.

Nursery Hospital.—Peter John Popoff, assistant physician, to fill vacancy.

Park Reception Hospital.—Thomas H. Manley, M. D., junior assistant physician.

Newspaper Advertising.—We have had, lately, some glaring examples of violation of the unwritten but well-understood law regarding the publication of strictly professional essays in the daily papers. The profession can always distinguish between the cases when such publication is accidental or unauthorized, and those in which it is expressly sought as a means of notoriety. The censors of our medical societies would do well to pay prompt attention to the latter, else the reputation of the societies will be in danger.

University of Vermont.—The Medical Department of this institution appears, from the twenty-second annual announcement, to be in a flourishing condition. Dr. James L. Little, of this city, has been appointed Professor of the Principles and Practice of Surgery. The example set by Dr. Little, who delivered the course in surgery last year, in offering a prize for the best set of notes of his lectures, has been followed by others of the Faculty, and there are now, in all, six prizes offered.

Graduates in Medicine in Germany and the United States.—The Canada *Lancet* calls attention to the fact that in 1874 the whole number of physicians who received licenses to practise medicine, in the various medical colleges of Germany, was six hundred and sixty; whereas, in the United States, with a somewhat smaller population, three thousand practitioners were licensed during the same year!

A New Medical School.—The corner-stone of the Anatomical School of the New Faculty of Medicine of Geneva was laid March 3d, with great pomp and ceremony. Many learned societies were represented, and the Government took much interest in the affair.

Death from Chloroform.—The *Lancet*, of April 3d, announces the death of a patient in Adelaide Hospital, Australia, from the administration of chloroform for a trifling operation. The anæsthetic was given with the utmost care and skill.

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from March 14 *to April* 13, 1875.

Head, J. F., Surgeon.—Relieved from duty in Department of Dakota, to proceed to Boston, Mass., and, on arrival, report by letter to the Surgeon-General. S. O. 44, A. G. O., March 16, 1875.

Hammond, J. F., Surgeon.—When relieved by Surgeon Moore, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 44, C. S., A. G. O.

Moore, John, Surgeon.—Relieved from duty in New York City, and assigned to duty as Medical Director, Department of Texas. S. O. 44, C. S., A. G. O.

Bill, J. H., Surgeon.—In addition to his duties as member of the Army Medical Board, to perform, temporarily, the duties of Attending Surgeon at Headquarters, Military Division of the Atlantic. S. O. 44, C. S., A. G. O.

Gray, C. C., Surgeon.—When relieved by Assistant-Surgeon Jackson, assigned to duty as Post-Surgeon at Fort Brown, Texas. S. O. 52, Department of Texas, March 22, 1875.

Whitehead, E., Assistant Surgeon.—Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 52, C. S., Department of Texas.

Azpell, Thomas F., Assistant Surgeon.—Assigned to temporary duty at Fort Columbus, N. Y. H. S. O. 42, A. G. O., March 13, 1875.

De Witt, C., Assistant Surgeon.—Granted leave of absence for one month. S. O. 37, Department of the South, March 22, 1875.

Rose, George S., Assistant Surgeon.—Assigned to temporary duty at Madison Barracks, N. Y. S. O. 69, Military Division of the Atlantic, April 10, 1875.

Styer, Charles, Assistant Surgeon.—Granted leave of absence for one month. S. O. 34, Department of the South, March 16, 1875.

Elbrey, F. W., Assistant Surgeon.—To report to the commanding general, Department of the South, for assignment to duty. S. O. 63, A. G. O., April 10, 1875.

Hoff, Alexander H., Assistant Surgeon.—Relieved from duty at Fort Columbus, N. Y. H., and to take station in New

York City during his duty with the Army Medical Board. S. O. 50, A. G. O., March 24, 1875.

ADAIR, G. W., Assistant Surgeon.—Assigned to temporary duty at Ringgold Barracks, Texas. S. O. 52, C. S., Department of Texas.

JACKSON, D., Assistant Surgeon.—Assigned to duty as Post-Surgeon at Fort Duncan, Texas. S. O. 52, C. S., Department of Texas.

SEMIG, B. G., Assistant Surgeon.—Relieved from duty in Department of California, and ordered to Department of Arizona. S. O. 44, C. S., A. G. O.

CHERBONNIER, A. V., Medical Store-Keeper. — Granted leave of absence for one month. S. O. 63, C. S., A. G. O.

WIGGIN, A. W., Assistant Surgeon.—Died at Fort Stevens, Oregon, March 7, 1875.

Obituary.

D. FRANCIS CONDIE, M. D., for more than half a century a practising physician in Philadelphia, and the author of several standard medical works, died March 31st, at Morton, Pa., in the eightieth year of his age. It is only a few years since he retired from practice, up to which time he had resided in Philadelphia. He was born in Philadelphia, May 12, 1796, and graduated as Doctor of Medicine in the University of Pennsylvania, March, 1818.

The following is a list of his publications: "An Abridgment of Thomas's Practice," 1817; "Course of Examination for Medical Students," 1824; "Catechism of Health," 1831; "Treatise on Epidemic Cholera, in conjunction with Dr. John Bell," in 1832; "Diseases of Children," fourth edition, 1854. Dr. Condie wrote for many of the medical publications of the country, and he was regarded among his professional brethren as a ripe scholar and sound thinker. His industry was something remarkable. He was an early riser, and he labored without ceasing, seeming to find real pleasure in either physical or mental work.—*Philadelphia Medical and Surgical Reporter.*

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Original Communications.

Art. I.—*A Clinical Contribution to the Treatment of Tubal Pregnancy.* By T. Gaillard Thomas, M. D.

No condition which develops itself in connection with gestation is attended by greater or more inevitable dangers than that in which the impregnated ovum attaches itself to tissues outside of the uterus. The vast majority of women thus affected lose their lives from sudden rupture of the vicarious uterus in which the fœtus exists, while others, after passing through long periods of suppuration and discharge of the fœtal remains, die from exhaustion or the absorption of septic elements. It is true that a certain number have recovered, but none have done so without exposure to very imminent risks, and generally after prolonged suffering.

Authors have apparently vied with each other in dividing and subdividing this abnormal development into varieties subordinated to the exact position in which it occurs, some making even as many as ten of these. After careful examination of every case of extra-uterine fœtation to which I have had access, I am unable to substantiate the position, and yet I feel inclined to believe that, in the commencement of its development, the impregnated ovum never attaches itself to or draws its nourishment from any other parts than those lined by the mucous membrane of the uterus or tubes. Knowing as we do the delicate and subtle connection which the chorion establishes with the maternal tissues, it is certainly difficult to believe that an impregnated ovum, falling free into the peritoneal cavity, or detained within the Graafian vesicle, can, with parts so unlike the lining of the uterus, establish relations almost identical with those which are normal. Velpeau and others have warmly contested the validity of ovarian pregnancy. One recent author, in sustaining it, mentions as a ground for it the fact of the fœtal ball being covered by peritonæum. As it has been demonstrated that the ovary is not covered by peritonæum, this argument loses much of its force, and a resort to it shows how much in want of proof the position really is. Even the presence of the fibrous tunic of the ovary around the ovum could be simulated by an envelopment by the flattened organ, somewhat like that of the decidua reflexa in the uterus.

It is certainly possible that an impregnated ovum, caught in the fimbriæ of a tube, could develop between tube and ovary, flattening the latter, and in time attaching itself to it, so as to give many of the appearances of ovarian pregnancy. This Velpeau claims to be the true explanation of cases reported as ovarian. In the same way, the fimbria attaching tube to ovary being broken, the latter, holding in its grasp the impregnated ovum, may fall into the peritoneal cavity, where the vascular chorion soon establishes a firm connection with the peritonæum or omentum, rendering the tubal relation entirely insignificant.

Interstitial pregnancy is, of course, only a variety of tubal pregnancy, that part of the tube being involved which passes through the uterine wall.

It may be said that all this is unproved. To this I would reply that the usually accepted theories are by no means satisfactorily settled; that the view here advanced is far more rational and in accordance with physiological laws; and that it is offered entirely in the character of a suggestion for future investigation.

With these prefatory remarks, I will now proceed to relate the following case, which has called them forth:

On the 4th of February, 1875, I was requested to visit Mrs. C., in Elizabeth, N.·J., in consultation with Drs. Green and Crane, of that city. I found the patient to be a refined and educated lady of thirty-two years of age, of medium height, who, up to three weeks before the date above given, had enjoyed excellent health.

The history given me of her existing illness was the following: on the 25th of October Mrs. C. had menstruated for the last time, and within three weeks from that date the gastric symptoms of pregnancy had shown themselves. About the 24th of November a very slight discharge of blood took place from the vagina, but neither in duration nor character did it resemble the menstrual flow. From this time until three weeks before I saw her, all of the symptoms of pregnancy had gradually developed themselves, and the patient, who had been sterile during a married life of six years, had believed herself to be now really pregnant.

About the 15th of January, during the night, the patient, who for some days before this had experienced some uneasiness in the left iliac fossa, was awakened from sleep by a severe "cramp" in this region. In a short time this increased to a pain which became agonizing in character, and Dr. Crane was sent for. He found her suffering so severely that the forehead was bathed in perspiration, the pulse small and rapid, and the countenance pinched. Only after the free and repeated use of morphia subcutaneously, was this attack relieved. On the next day the patient was free from this paroxysm, but felt a great deal of soreness over the left iliac fossa, and this part was tender to the touch. During the next five days this state of things continued, and at the end of this time another paroxysm of severe pain occurred which, like the first, was relieved by the free hypodermic use of morphia.

After this attack the patient was not again free from pain until I saw her, and was most of the time confined to her bed and kept under the influence of morphia, which was repeatedly injected hypodermically. At intervals of several days the severe attacks of pain which I have described would come on, and last for five or six hours, passing off under the influence of morphia used as above mentioned.

Upon my visit at 4 P. M. on the 4th of February, I found that Mrs. C. had had, in all, five paroxysms of pain, and was never entirely free from suffering. So great was this when she walked across her room, which she did very rarely, that she would bend the body sharply forward to avoid putting the abdominal muscles into a state of tension. During the three weeks of suffering which I have described, she had become emaciated, the eyes were somewhat sunken, and below them were dark semicircles. She was somewhat under the influence of morphia, and felt no great pain when she kept perfectly quiet. Her mind was, however, greatly disturbed by the fear of the recurrence of what she termed "the cramp." The temperature was at this time normal, the pulse small and quick, the appetite almost abolished by the persistent use of morphia, and the bowels very much constipated.

A physical examination revealed the following state of things: the uterus appeared somewhat enlarged to conjoined manipulation, measuring three and a half inches from the os externum to the fundus, was in the position of right oblique anteversion, and was not so movable as normal; the vagina was soft, elastic, and enlarged as it is during pregnancy; to the left of the uterus I found, by vaginal touch, a tense, elastic cyst, which filled the whole iliac fossa, pressed the uterus to the right, and extended downward as low as a point a little below the os internum. Upon conjoined manipulation this cyst was found to be as large as the uterus in the third or third-and-a-half month of pregnancy. It was sensitive to the touch, slightly movable upon upward pressure, and, upon carefully practising *ballottement* upon it, I could feebly but distinctly get the evidence of a very light body which was thrown upward and fell upon the floor of the sac. No doubt existed in my mind as to the recognition of this fact, and it was only after its recognition that I ventured to probe and measure the uterine cavity. Upon it I based the diagnosis which I then made of left tubal pregnancy at the end of the third month of development.

From the period of pregnancy, the repeated attacks of severe paroxysms of pain, the tenderness upon pressure, and the apparent tenseness of the distended sac, I was convinced that the occurrence of rupture was imminent, and urged immediate surgical interference. The husband and relatives of the patient were naturally very greatly perturbed at the announcement which I made, more especially since I was unable to hold out any bright prospect of recovery, even if operative procedure were resorted to.

On the 5th of February, one day after my visit, Dr. Marion Sims went out to see the patient; on the 6th Mr. C. called to request me to act as my judgment dictated in reference to the case; and on the 7th I performed the operation, which I now proceed to describe. On Sunday, the 7th, in company with Drs. J. E. Blake, J. B. Hunter, and S. Beach Jones, I went to Elizabeth, prepared to remove the fœtus by elytrotomy. The weather was intensely cold, the thermometer being at zero in Elizabeth. At the house of the patient we were met by Dr. Crane, Dr. Green being detained by a case of midwifery.

Before detailing the treatment of this case, I would remark that few cases of extra-uterine pregnancy have, during their early and progressive stages, been brought to a favorable conclusion by surgical means. For this there are four good reasons: 1. The doubt which usually attends diagnosis; 2. The danger of attending invasion of the peritonæum; 3. The dangers arising from septic absorption from retention of the fœtus or its envelopes; and, 4. The certainty of grave hæmorrhage from opening into the extraordinarily vascular nest in which the fœtus is contained. To meet the indications the following plans have been those generally adopted: 1. The operation of gastrotomy has been practised, that the fœtal mass might be removed like an ovarian tumor; 2. The liquor amnii has been drawn off by a very delicate trocar, in order to diminish tension and check the growth of the cyst; 3. The fœtus has been killed *in situ* by the passage of strong currents of electricity, or the injection into the sac of strong narcotics, like atropia or morphia, with the hope that nature might, at a future time, cause its discharge, with the contents of the abscess which it usually creates.

The first procedure is attended by the dangers of peritonitis and hæmorrhage; and the second and third by those of hæmorrhage into the sac, septicæmia, and subsequent formation and discharge of an abscess located just under the peritonæum. By the process which I now proposed to adopt, I hoped to avoid the dangers of peritonitis by opening the fœtal sac by the vagina, passing up to it between the folds of the broad ligaments. Hæmorrhage, I thought, might be in great degree prevented by cutting into the sac by means of a knife rendered incandescent by a powerful current of electricity. And by complete removal of both fœtus and placenta, and thorough drainage of the sac by carbolized injections through a tube of glass or silver, kept in it, and discharging its contents by the vagina, I was sanguine of avoiding septicæmia.

I proceeded to adopt the plan from which I hoped for these results in the following manner: the patient having been etherized by Dr. Blake, was placed upon a table before a window admitting a strong light, in the left lateral position, and Sims's speculum introduced. Through this the cyst to the left of the uterus could be distinctly palpated. Now, fixing a long-handled tenaculum in the cervix uteri, and another in the vagina near the left ilium, this part was by them put on a stretch so as to make of that side of the canal a triangle, the base of which was over the cyst, and the apex at the vulva. Assistants held these tenacula during the operation. Taking the platinum knife of the galvano-caustic battery, which was brought to a white heat, I now passed it gently over the base of the triangle described as created in the vagina, carrying it from one tenaculum to the other. By repeating this the vaginal wall, over the lower segment of the cyst, was slowly cut through. In six minutes the cyst was opened by the incandescent knife, and a straw-colored, slightly-pinkish fluid was thrown out with such force as to fly into my face and over my clothing.

Thus far no blood whatever had been lost. I now passed my index-finger into the cyst, and felt a fœtus lying horizontally with the head toward the ilium, and the feet toward the uterus. Passing in the middle finger likewise, I caught the feet between the two, and, turning the fœtal body, drew them through the artificial os which I had created, and delivered the child from the vicarious uterus which it occupied. The steps of the procedure exactly resembled those adopted in ordinary podalic version. The fœtal body advanced steadily until the arms reached the opening; then arrest occurred until they were swept out. The head was then arrested, and I strove to liberate it by manipulation and traction. Failing in this, I applied a pair of long-handled placental forceps, and at once it was extracted. The cord was then cut, and I proceeded to deliver the placenta by gentle traction and detachment, as is done after ordinary labor. Thus far thirteen minutes had been consumed.

At this point, the first difficulty which had attended the operation, showed itself. This was due to want of knowledge on my part as to the exact manner in which the placenta is attached in tubal pregnancy. Foreseeing this difficulty, I had carefully looked for information in the literature of the subject, but could find none which was of any practical value. I feared to detach the placenta with any degree of force, for the reason that I might, I thought, tear through the wall of the sac, and thus open into the peritonæum. For this reason, I proceeded less rapidly and vigorously than I should otherwise have done. When I had separated a little over half of the placenta, a very severe hæmorrhage took place, and so much was the patient's condition depreciated by it in the two or three minutes of its duration, that I was unwilling to delay for the removal of more. Tearing the detached portion off, I passed a large gum-elastic catheter into the sac, and injected a solution of the persulphate of iron into it. This I was very sorry to be forced to do, but the hazard of delay was too great to allow of any other course. The flow of blood was instantly checked, but this was attained at the sacrifice of perfect drainage, and the leaving of the sac full of coagulated blood, and a portion of the placenta. Instead of inserting a drainage-tube, I was forced to substitute a long tent of carbolized cotton, saturated with a solution of persulphate of iron.

In twenty-eight minutes from the commencement of the operation, the patient was put to bed, her head kept low, the foot of the bedstead elevated about six inches, ten drops of Magendie's solution of morphia injected subcutaneously, perfect quiet established, and a milk-diet ordered.

The fœtus being examined, was found to measure six and a half inches; and the placenta, which resembled closely one developed *in utero*, looked like one of three or three and a half months of growth. As it was not entire, it was not weighed or measured.

After this, all went well until the evening of the fourth day, when I withdrew the tent of cotton, and symptoms of septicæmia soon showed themselves. These yielded to constantly-repeated injections into the sac of carbolized water, at the end of a week. On the seventh day after the operation, slight hæmorrhage took place from the sac, but was without difficulty controlled by the addition of a small amount of solution of persulphate of iron to the carbolized water.

On the fifteenth day the remaining portion of the placenta came away spontaneously. On the sixteenth day evidences of an embolus in an unimportant vessel of the arm showed themselves, which created a small abscess, and about the same time fears were entertained that phlegmasia dolens was developing. These last, however, proved delusive. Subsequent to this period, no evil symptom showed itself, the patient suffering only from fecal impaction, probably the result of interference with defecation by the obstruction exerted by the tumor, and the interference with peristalsis effected by the large amounts of morphia taken.

Six weeks after this operation, I examined by vaginal touch, and was surprised to find the opening made by the incandescent knife so completely closed that I found difficulty in ascertaining its exact location; and ten weeks after it, upon visiting Elizabeth to see another patient, I had the satisfaction of seeing Mrs. C. in her parlor receiving company, and presenting an appearance so markedly in contrast with that presented by the haggard and emaciated patient of February 7th, that, even after conversing with her, I was scarcely able to identify her as the same individual.

The appreciation of the sign of *ballottement*, which greatly aided me in arriving at a positive diagnosis in this case, has served me an equally valuable purpose in two others. On no single sign, however, should undue reliance be placed. During the first sixteen years of my practice, I saw no case of extra-uterine pregnancy. At the end of that period, I saw four in one month. During the past seven years, I have met with nine. Three of these I saw after rupture of the sac, the patients being *in articulo mortis*; two were put beyond question by gradual discharge of fœtal bones; in four cases I succeeded in making a diagnosis as positive as that which is detailed in this paper. In these, a certain conclusion was arrived at by coincidence of the following conditions: (*a.*) The existence of the gastric, mammary, and pelvic symptoms of pregnancy; (*b.*) A uterus smaller than should exist at the supposed period of gestation; (*c.*) A sensitive tumor to one side of or behind the uterus; and (*d.*) Pains extending from the pelvis down one thigh.

In three of these four cases I so distinctly obtained the sign of *ballottement* as to be willing to lay a great deal of stress upon it in arriving at a decision, and in all of them having arrived at a conclusion with a good deal of positiveness, I did not hesitate to employ the uterine sound to assure myself of the position, capacity, and state of vacuity of the uterus. In a doubtful case dilatation of the cervical canal by tents would prove a valuable means of entirely excluding normal pregnancy. True, such a method would insure an abortion, if normal pregnancy existed, but if the probabilities were strongly in favor of extra-uterine pregnancy, and surgical relief appeared practicable in case of its existence, it would be a diagnostic resource not only legitimate but obligatory.

ART. II.—*Pseudo-Hypertrophic Muscular Paralysis, with an Analysis of Cases.* By C. T. POORE, M. D., Physician to St. Mary's Free Hospital for Children, and Charity Hospital, New York.

THE affection of the muscular system designated "pseudo-hypertrophic," or "myosclerotic" paralysis, which may be defined as a diminution of motility with increase in the volume of the muscles, was first described by the Italian physicians Coste and Gioja, in 1838, who mention two cases under their care at the Hospital for Incurables at Naples. In 1852 Edward Meryon reported four cases, in the "Transactions of the Medico-Chirurgical Society of London;" but it was not until 1861 that this disease was carefully studied and brought before the profession, by Duchenne, in his work on electricity; and again by the same author in 1868, in a series of articles, with an analysis of thirteen cases (*Archives Générales de Médecine*), from which all writers on this disease have largely drawn when treating of this complaint.

Since then numerous cases have been reported in the German, French, and English medical journals.

In 1868 Dr. Clymer published an article in the appendix to Aitken's "Science and Practice of Medicine," and again in 1870 a lecture by the same author appeared in the *Medical Record* for July 15th, with a review of the cases up to that date. In November of the same year, Drs. Ingalls and Webber, of Boston, published the first case described in American medical literature, with a partial analysis of forty-one cases, in the *Boston Medical and Surgical Journal.* Since then cases have been reported by Dr. William Pepper (*Philadelphia Medical Times*, June and July, 1871); Dr. S. Weir Mitchell (*Photographic Review*, October, 1871); Dr. E. M. Estrazulas (Annual Supplement to *Obstetrical Journal of Great Britain*, etc., September, 1873); Dr. C. H. Drake (*Philadelphia Medical Times*, August 29, 1874).

From the above it would seem that the disease is quite rare; but cases may have escaped notice, not having been recognized, or having been considered as cases of progressive muscular atrophy, a disease which the one under consideration resembles in many of its symptoms. I am informed that a case was brought to an orthopœdic dispensary in this city in 1869, but not at the time recognized, and from the history there were probably three cases occurring in the same family, in Vermont.

As a further contribution to the literature of this subject the following case is presented, with an analysis of eighty-five cases collected from various American and foreign medical journals. For valuable assistance in preparing this paper I am under great obligations to Drs. C. S. Bull, Edward Frankel, and George R. Cutter, the latter for looking over the Swedish medical literature.

E. G., nine years old, was a perfectly healthy and medium-sized child at birth. Her parents are still alive; her mother is healthy, but has been subject to severe headaches from puberty. Her father is intemperate. Her maternal grandmother died of cancer of the breast, and her grandfather of some disease attendant on old age. Her mother has never heard of any member of her husband's family who has been paralyzed or deformed. Patient's mother has had eight children, five of whom she has lost, two infants at birth, one two years old of typhoid fever, one at five of bilious fever, and one killed by an accident. There are three daughters alive and perfectly healthy; none of her children have ever had convulsions. Patient began to walk when two years old, and walked well until her fourth year, when it was noticed that in running she dragged her toes on the ground, and seemed weak in her legs. She fell very often; the least thing would throw her down. When five years old it was noticed that the muscles on the back of her legs were shortened. Difficulty in walking has gradually increased ever since. Until her third year she was sickly, had chronic diarrhœa, and at that age was small for her years, but since then has grown rapidly, but no portion of her body has increased more than another.

Last winter her feet and legs began to feel cold and look purple; this condition increased during the summer. She has had no children's disease except mumps. Has never complained of any pain in her legs. She has had at times difficulty in holding her water. All her brothers and sisters walked well.

The patient was admitted to St. Mary's Free Hospital for Children October 7, 1874. The following was her condition at the time of her admission:

She is a heavy-looking child, rather thick-set, forty-six inches in height, healthy in appearance; sensation, as far as can be ascertained, normal; in intelligence she is dull and stupid. Heart and lungs are normal. The muscles all over her body seem enlarged, so as to give her an unwieldy appearance. The muscles of her calves are well developed, and when they are contracted are hard, and stand out prominently, but when relaxed are hard to define; they seem covered by a thick layer of fat. The thighs are well developed, but the muscles do not feel as hard as those on the posterior aspect of leg. The glutei are soft even when contracted. The extensor muscles of the spine, in the lumbar region, are strongly developed, and stand out like hard bands when in action. Muscles of the arm and forearm are firm when contracted, but are not increased in size, and cannot withstand much resistance.

The muscles on the anterior aspect of leg seem covered with a deep layer of fat, and cannot be defined. Vasti interni appear large, but are soft and flabby. Her feet are in a position resembling talipes equinus, with a slight tendency to varus, being extended at the ankle-joint. There is a claw-like bending of the toes.

Passive movements of the foot on the ankle joint, both flexion and extension, can be made without difficulty; but active movements are impossible. When in bed she can flex the thigh on the pelvis, and the leg on the thigh—the right better than the left—but not with much energy.

Grasp of hand weak. Can dress and undress herself.

When standing, there is a marked lordosis in the lumbar region. She stands with her legs widely separated, and the upper portion of her body and shoulders thrown back.

In walking, she swings her body from side to side in a waddling manner. In progression, the anterior portion of her feet only is in contact with the ground. When she first starts off to walk, her heel is almost flat on the floor, but, on taking one or two steps, the gastrocnemii are seen to contract more and more powerfully, raising the heel more and more from the floor, with a hastening gait which ends by her falling or catching some firm object.

Skin of feet and legs red and mottled, easily chilled, and then becomes purple; the same is true of her hands, arms, and body.

No pain on pressure along the spine.

When she attempts to sit down on the floor, she drops down; on rising, has to draw herself up by climbing hand over hand, seizing some firm object for that purpose.

Turning from the prone to the supine position when in bed is difficult.

She cannot cross one leg over the other when in a sitting position.

The strength of the gastrocnemii is considerable; that of the arm and forearm weak.

Electro-muscular contractility is good in all muscles except those on anterior aspect of legs.

When she attempts to lean forward she falls, unless she is supported.

Has no trouble with her bladder or rectum.

Her appetite is good.

Reëxamination April 17, 1875.

Since her admission into the hospital her back and muscles have been daily galvanized. She has had good, nourishing diet, and has taken cod-liver oil; but there has been no stay in the progress of the disease. Her difficulty in walking has gradually increased, and her falls have been more frequent. For some time she has been unable to dress and undress herself. She has lost much of the fullness about her face, and the muscles of her arm and forearm are more flabby, and do not contract with as much power as at the time of the first examination.

The sacro-lumbar muscles have decreased much in size, and with this she has had more difficulty in keeping her balance. Her gastrocnemii are still hard when contracted, but have diminished somewhat in size. The mottling of the skin is more marked. All her movements are executed in a more clumsy manner, and she is not inclined to move about much. I cannot satisfy myself that there has been any change in the electro-muscular contractility, except in the lumbar muscles, where it is diminished.

The disease is divided into three, and by some writers into four stages, viz., that of weakness of the limbs, hypertrophy, a stationary period, and finally one of paralysis and atrophy.

In all cases, weakness of the lower extremities marks the beginning of the disease. There is no fever, and in most cases no pain, nor any neurotic symptom. If the disease begins in early infancy, before the period of walking usually commences, this may be delayed, or the little patient may always use her limbs in a very clumsy manner, or may never walk at all.

If, on the other hand, the disease is later in manifesting itself, the only symptoms to attract attention at first are, the peculiar unsteady gait, easy fatigue, and frequent falls of the patient, especially in running.

In eighty-five cases, three never walked, twenty-four never walked well, one is reported as coming on gradually, fifty-two walked well at first, and in five cases no mention is made of the period of walking.

Of those who never walked well, two began to walk at eighteen months, three at two years, three at two and one-half years, two at three years, one at three and one-half years, four at four years, one at five years, and five are reported as walking late and badly.

Of the fifty-two patients who experienced no difficulty in walking at first, in thirty-five the date of walking is not reported. In the fifteen cases in which it is mentioned, the earliest date of walking is one year; the latest, three years. Four did not walk until their second year; three walked early—one at fifteen months, one at eighteen months.

Again, of the fifty-two patients who walked well at first, difficulty in walking began at—

2½ years	2 cases.
3 "	2 "
3½ "	1 case.
4 "	2 cases.
5 "	8 "
6 "	6 "
7 "	9 "
8 "	2 "
9 "	1 case.
10 "	5 cases.
11 years	3 cases.
16 "	3 "
24 "	1 case.
26 "	1 "
28 "	1 "
32 "	1 "
37 "	1 "
40 " (about)	1 "
Childhood	1 "
Early age	1 "

Thus, in eighty-five cases, it is found that in thirty-eight the disease first manifested itself before the age of five years, in twenty-six between the fifth and tenth year, in six between the tenth and sixteenth year, and in only six after that age, namely: one at twenty-four, one at twenty-six, one at twenty-eight, one at thirty-two, one at thirty-seven, and one about forty.

Out of the twenty-six patients in whom the disease developed itself before they walked, the calves were always enlarged in three, and when two of these came under observation, in their thirteenth year, they had never walked.

The remaining twenty-three did not begin to use their lower limbs until a late period, and even in those who at first seemed to exhibit no characteristic difficulty in locomotion, but who in later years developed the disease, the same backwardness in walking was often noticed.

In two cases the disease began with convulsions; one is reported by Duchenne (*Archiv. Gén. de Méd.*, 1868) in a boy who was well-formed and had walked well until his fifth year, when he was seized with convulsions, lasting some hours, unaccompanied by any fever, followed by weakness in his lower limbs. After some months a progressive increase in the size of the calves and lumbar muscles was noticed, and in his eighth year he showed all the symptoms of an advanced case of pseudo-hypertrophic paralysis. The other case, reported by Dr. C. H. Drake (*Philadelphia Medical Times*, August 27, 1874), was a boy who had lost two brothers from "brain-fever," and was seized with the same disease, accompanied with violent and long-continued convulsions; he has never been well since. One year later difficulty in walking was noticed, followed by a gradual increase in the size of the muscles of the calves, forearm, and in other parts of his body, and at twelve years of age he exhibited all the symptoms of the disease under consideration.

One case commenced with pain in the lower limbs (Seidel, *Centralblatt*, 1867, p. 666).

One, a man of twenty-six, who had done a great amount of walking, experienced a feeling of stiffness in walking, and rheumatic pains on the outside of his thigh; three months later the muscles of his thighs began to enlarge, followed in three weeks by those of his calves (Brown, *Edinburgh Medical Journal*, vol. xv., 1870, p. 1079). One patient complained that his legs ached after using them (Russell, *Medical Times and Gazette*, May, 1869, p. 571). One, pain in his back at the beginning of the disease (Down, "Trans. Path. Soc.," London, 1870, p. 29). One, acute pain at times in his calves (Drake, *loc. cit.*). One, constant pain in his legs, from the beginning of the disease until he was confined to his bed (Heller, *Archiv. f. klin. Med.*, I., vi., p. 616). One had pain in the spinal column, and afterward in the lower limbs (Rakowac, *Wiener medicinisch Wochenschrift*, No. 12, 1872). One, pain between the shoulders after using her arms (Brunniche, *Hospitals-Tidende*, April 29, 1874). But all these seem to be exceptions to the rule that the disease is unaccompanied by pain. Later on, when the muscles have become greatly increased in size, there is often a feeling of tension after exertion.

The difficulty in walking, experienced at the beginning of the disease, is due to a progressive loss of power in the muscles of the legs, buttocks, and back. Those affected with the disease stand and walk with their feet widely separated, in order to give them a wider base of support. The lumbar curve is exaggerated, the upper portion of the body thrown backward, and the abdomen protruded in order to enable them to keep their balance.

Their mode of walking, even at an early period of the disease, is peculiar. With the feet widely separated, they throw their entire weight on one leg, with a lateral bending of the lumbar spine to that side; and then, with a jerk or hitch, swing the other leg, carrying the foot through the arc of a circle, with the toes pointing downward to a position in advance of the other. This manœuvre is repeated in advancing the other foot. This alternate balancing of the body gives these patients a very peculiar and characteristic gait. This waddling, oscillating manner of walking is mentioned in fifty-eight of the eighty-five cases; and in twenty-seven no mention is made of the mode of walking. The incurvation of the lumbar spine in the erect position, which Duchenne considers one of the constant symptoms of the disease, is mentioned as existing in forty-nine cases. No mention is made of it in thirty-five cases; but of these, eight did not walk at the time of observation, and two had never been able to use their lower limbs, so that, out of the eighty-five cases, all but twenty-seven are accounted for.

Duchenne calls attention to a peculiarity in the lordosis of pseudo-hypertrophic paralysis as differing from that found in atrophy, or paralysis of the abdominal muscles; in the latter a plumb line, let fall from the most prominent spinal process, will pass through the sacrum, while in the disease under consideration it will pass behind the plane of that bone. The period in the course of the disease at which this symptom is found is stated in only six cases: in two it was among the earliest; in one case it was seen when the child first began to walk; in one five years, and in one six years after the waddling gait was noticed—and in one case it seems to have been the first symptom.

This lordosis is due to a weakness of the extensor muscles of the spine. The manner in which these patients pull themselves up, as it were, from a sitting posture, or in getting up from the floor, shows how little strength there is in these muscles.

The difficulty which they experience in keeping their balance while standing or walking, even in the early stage of the disease, is due to the same cause. Any unevenness of the ground, any little jostle, or sudden attempt to turn, is sufficient to throw them down. This, together with the waddling gait and clumsy mode of getting up, may be, and often is, the first symptom to attract attention.

The disease is much more common among males than females: thus, in eighty-five cases, seventy-three occurred among males, and only eleven among females. In one case no mention is made of the sex.

The symptom marking the second stage of the disease, which is the most striking, and at the same time most characteristic, is the painless increase in the size of a limb, or certain muscles of a limb, from which the disease derives one of its names.

There is no rule as to the period in the disease when this hypertrophy begins.

It is impossible to give in any statistics the period from which this increase in the size of the muscles dates. But few cases have been under observation at a sufficiently early date of the trouble, and the statement of the friends of the patient, or the patients themselves, when old enough, must necessarily be inaccurate, as their attention would not be called to the condition of the muscles until they had undergone considerble change. The following table is only approximative :

In forty cases no mention is made of the time when the hypertrophy commenced.

In three cases the calves were always enlarged.

In eleven cases the enlargement of the calves was noticed at the time the difficulty in walking began.

One case dates from infancy.

In five, the calves are said to have commenced to enlarge six months after the waddling gait was noticed; in two, three months after; in three, one year after; in one, one year and a half after; in three, two years after; in two, three years after; in four, four years after; in one seven years after; and in one case there was no hypertrophy.

In the three cases in which the calves were always large—in two (Duchenne, *loc. cit.;* Griesinger, *Arch. d. Heilkunde*, vi., 1, p. 1, 1865; Schmidt's "Jahrb.," 1865, iv., p. 179) the patients never walked; in the third (Hillier, "Diseases of Children," p. 264) the child walked at twenty-one months, but always unsteadily. After his third year, his walking powers gradually declined, and at ten he was unable to raise himself in bed.

The case in which there was no increase in the size of the muscles is reported by Russell (*loc. cit.*). The muscles of his calves were hard when contracted, but not enlarged. He had not been able to stand for eighteen months; and the pathological condition of the muscular tissue, taken from the calves, was similar to the same tissue taken from his brother, who shared all the marked symptoms of pseudo-hypertrophic paralysis.

It is a question whether the disease ever begins during intra-uterine life. Hillier, Duchenne, Griesinger (*loc. cit.*), each reports a case where the calves are said to have been enlarged at birth.

The statement of some observers would indicate that the hypertrophied muscles were weakened; this is true in the later periods of the disease. Russell (*loc. cit.*), Pepper (*Philadel-*

phia Medical Times, June 15, 1871), B. Foster ("Clinical Medicine," London, 1874), Davidson (*Glasgow Medical Journal*, May, 1872), and others, state that the enlarged muscles are at first increased in strength. In my own case there is certainly no decrease in the power of the gastrocnemii, although the muscles in other parts of the body are weakened. Duchenne states that, from his own observation, the degree of paralysis is not in direct relation to that of the hypertrophy. Davidson considers the hypertrophy as compensatory, and explains the localization of the enlargement in the calves by the fact that they have the greatest amount of work to do in keeping the body erect, and in walking.

In those cases where most of the muscles of the body have undergone this change, the appearance of the patient would indicate great strength and endurance; while, in truth, it is with the greatest difficulty that he can walk across a room. Again, the difficulty in walking increases, notwithstanding the hypertrophy. The enlarged muscles stand out prominently, and are hard to the feel when contracted, but when relaxed are flabby, and hard to define. In some cases they are covered by a thick layer of subcutaneous fat, which dips down at times between the muscles (Dahlerup, *Nord. Med. Ark.*, vol. iv., No. 7, 1872). The skin may be so stretched over the muscles, being distended by the fat, that it cannot be pinched up.

In two cases a stage of atrophy preceded that of hypertrophy (Pepper, *loc. cit.;* Barth, *Arch. d. Heilk.*, 1871, vol. ii.). In the one case the atrophy attacked first the muscles of the calves, then those of the thigh, back, and shoulders; two years later, after the atrophy had become marked, hypertrophy began, first in the muscles of the calves, which grew until they acquired a size much greater than they ever had previously; this renewed growth then appeared in the muscles of the forearm, and they have continued to grow at a slow rate ever since. In the other case (Barth), an adult, in whom the disease began with pain in the lower limbs, the gastrocnemii were found to be below size; one year later hypertrophy was evident in many of the muscles formerly atrophied.

Charcot thought that a muscle he was examining in the early stage was smaller than normal. In Russell's case, mentioned above, of a child whose brother was affected with this disease, although the muscles of the calves were not enlarged, they were firm and hard when contracted, while the muscles of the upper extremities were extremely attenuated. May not this case belong to the same class as Pepper's?

Almost every muscle in the body may undergo this hypertrophic change, but the gastrocnemii are generally found enlarged; in the eighty-five cases there are only two exceptions, a case reported by Benedikt ("Elektrotherapie"), and Russell's case; next, the glutei are mentioned in forty-one cases; the extensor muscles of the spine in twenty-six cases; of the muscles of the upper extremities the deltoid and scapular are most frequently found involved in this change. The temporals are mentioned in three cases, masseter in two; the tongue was hypertrophied in three cases; four cases of hypertrophy of the heart were found; but as a rule the abdominal and thoracic viscera escape any change.

That the heart may become enlarged in connection with this disease, seems proved by the fact that in Foster's case, when the patient first came under observation, the heart-sounds were normal, and there was no hypertrophy; but, three years later, marked changes were found both in its size and sounds; there had been no disease to account for these changes.

All the muscles of the body may be increased in size (Duchenne, *loc. cit.*); the change may be confined to the four extremities (Coste and Gioja); may involve a muscle on one side of the body and not on the other, as the left latissimus dorsi (Benedikt); one gastrocnemius may be enlarged, the other atrophied (Müller, "Beiträge zur pathol. Anat. des mensch. Rückenmarks," Leipsic, 1871); may involve half of a muscle, as one-half of the deltoid (Benedikt); may attack the muscles on the posterior aspect of the leg, not involve those of the thigh, pelvis, or back, but may attack those of the forearm. In fact, there seems to be no rule as to its mode of distribution, and any attempt at classification would simply be an enumeration of the muscles involved in each case. In fifteen cases the calves only were enlarged.

While this increase is going on in some muscles, there is at the same time, or at some period of the disease, a wasting or atrophy of other muscles, adding much to the grotesque appearance of the patient. We often find that, while some of the muscles on the posterior part of the leg are hypertrophied, those of the thigh are atrophied; while those of the buttocks, again, are hypertrophied.

In nine cases the calves and forearms were increased in size, while the muscles of the thighs and arms were diminished; in five cases the lower extremities were reported enlarged, while the upper were wasted. In no case do I find the flexors of the foot reported enlarged.

When the muscles of the calves are enlarged, there is often found in the latter stage of the disease a condition resembling talipes equinus, with (in some cases) a tendency to varus—the foot being extended at the ankle-joint and not at the mediotarsal joint, as in pure talipes equinus. This condition is reported in thirty-nine of the eighty-five cases; in four it is stated not to have existed; and in forty-two no mention is made of it. It is probably in the majority of cases a late symptom, yet in one case (Russell) it was found among the earliest; in one case, six months after the difficulty in walking was first noticed; in two cases, one year later.

In those cases in which it did not exist, in one the gastrocnemii had been hypertrophied only one year; in another the calves had been enlarged five years, and in another three years.

Accompanying this condition of the feet we often find a claw-like bending of the toes, causing the patient to walk on the anterior portion of his feet. The cause of these deformities of the feet is attributed by most writers to the excessive action of the extensor over the flexor muscles of the foot. In my own case, when the patient first starts out to walk, she is able to bring her heels nearly flat on the floor; but, after taking one or two steps, the gastrocnemii are seen to contract more and more powerfully, almost spasmodically, and the heel is raised more and more from the ground, so that the weight of her body is thrown on the anterior portion of the foot; together with this there is a hurried gait, which ends by the patient falling down unless she supports herself by catching some firm object. There is some flexion of the leg on the thigh. T. Butlin ("St. Bartholomew's Hospital Reports," vol. viii., p. 194, 1872) considers that the hypertrophied muscles are shortened, not tonically contracted, but mechanically prevented from falling into their normal condition.

Passive motion at the ankle-joint in many cases can be made in all directions without exerting much force, but active motion is impossible. There is reported in thirty-six of the eighty-five cases a change in the cutaneous circulation, confined generally to the extremities, and although it is not mentioned by Duchenne, yet the number of cases in which it was found, show it to be not an uncommon if not quite a constant symptom. The change referred to is a mottling of the skin over certain portions of the body. In some cases it is of a bright-red color, in others it is at first red, but on exposure soon becomes bluish, while in other cases the skin is always of a dusky hue. In one case this mottling passed off when the patient assumed a horizontal position (Sigmundt, *Arch. für klin. Med.*, vol. vi., p. 630, 1866); in some cases this mottling is increased by muscular action. In all these cases there seems to be an inability to resist the chilling effect of the air, as exposure almost always deepens the shade of the marbling. In the case that forms the basis of this paper, on the slightest exposure the feet and legs assume an almost leaden color, and even when in bed the lower, as well as the upper extremities, are of a dusky-marbled appearance.

In twenty-two cases this mottling was confined to the lower limbs; in eleven to both upper and lower extremities; in one case the whole body, except the face, was mottled.

In a case reported by Benedikt, the right side of the face was redder and sweat more than the left, the right pupil was dilated, and the sympathetic on that side of the neck was tender on pressure.

In one case (Drake) the skin is reported as assuming in patches a dirty-brownish discoloration, giving the surface a marbled appearance; the patches seemed to appear over those muscles which were about to undergo increase in size. The cause of this condition in the cutaneous circulation has been variously accounted for by writers, those who look upon pseudo-hypertrophic paralysis as a neurotic disease ascribing it to changes in the spinal cord, or the sympathetic, while others, among whom is Friedreich, refer the mottling to impeded circulation from obliteration of the veins in the hypertrophied muscles.

One observer points out the fact that the discoloration becomes more marked when the patient makes attempts to produce movements. The condition of the skin above mentioned is almost always associated with diminished temperature of the part; but in one case (Ord[1]) the calves which were hypertrophied were from 1.9° to 3.9° warmer than the thighs which were atrophied. The skin in this case was of a bright-red color.

In another case (Foster) the temperature of the limbs was higher when the mottling of the skin was brightest. This mottling seems to increase as the disease advances, and to become of a darker hue.

Nearly all observers, when they have made any mention of the electro-muscular contractility of the hypertrophied muscles, report that in the later stage of the disease it is diminished. Thus, in forty-eight cases, in sixteen it was normal; in fifteen diminished in both hypertrophied and atrophied muscles; in two it was normal in the enlarged, but diminished in the wasted; in four it was diminished only in those muscles that were increased in size; in three cases it was abolished in all muscles; and in two it was abolished only in those atrophied; in four it was diminished in the atrophied muscle only; in one exaggerated in the hypertrophied; in one case normal in the enlarged, abolished in the atrophied.

In the case of which I have now charge, there is certainly no diminution in the electro-muscular contractility to the galvanic current, except in the muscles on the anterior aspect of the leg. In a case reported by Foster, in which all the muscles, even those formerly enlarged, had undergone marked atrophy, so that the patient was almost an inert mass, being able to perform only a few movements, there was yet some response in all the muscles to the galvanic current, but varying, being greatest in those muscles which were least wasted. The pathological changes in the muscle would account for their diminished action to the galvanic current, being in progressive muscular atrophy in direct proportion to the amount of healthy muscular tissue, and inverse to the amount of fatty infiltration.

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[1] *Medical Times and Gazette*, November 15, 1873.

In the early stage of the disease, before any or but slight changes have taken place, the reaction is perfectly normal, or may even be increased; but later, after the muscular fibres have become embedded in fat, there would naturally be a weak response to even a very powerful current.

In regard to the electro-muscular sensibility, there do not seem to be any reliable data to form the basis of any analysis, on account of the majority of the patients being children, from whom no reliable information could be obtained, added to a mental weakness, as in my own case.

Duchenne mentions small, hernia-like protrusions in the hypertrophied muscles in several of his cases, but I fail to find them in the patient under my care, nor do I find any mention made of this condition by any other writer.

In some cases there is a marked hereditary character to the disease. Thus:

In two cases a maternal uncle and aunt had this disease.

In one case three maternal uncles and aunts had this disease.

In one case one maternal uncle and one half-uncle had this disease.

In one case three maternal half-brothers had this disease.

In one case a maternal half-brother, three maternal uncles, and other members on the mother's side, had shown the symptoms of pseudo-hypertrophic paralysis.

In thirty-seven instances, two or more belonged to the same family. It will be observed that it is only on the mother's side that this hereditary influence is transmitted; while the disease shows itself almost exclusively in the males. Thus in a case reported by Duchenne, the mother, while she escaped, transmitted the disease to the children of her marriage. The same fact is stated in Foster's case.

In one case a maternal grandfather was hemiplegic.

In one case a paternal grandfather was insane.

In one case a father was insane.

In one case a father was intemperate.

In one case two brothers died of granular meningitis.

In one case a brother was an idiot.

In fifteen cases of the eighty-five the family history was good.

In thirty-three cases no mention of family history is made.

The mental condition is mentioned in fifty-nine cases.

In twenty-eight it was good; in two it was idiotic; in twenty it was dull or weak; in one it was infantile at eleven years; in two it was fair; in four it was precocious; one patient was insane.

In twenty-six cases no mention is made of the mental condition.

In three of the cases where the mental condition was impaired, it came on after the development of the hypertrophy of the muscles. Two are reported by Kesteven.[1] In one the disease came on after an injury at fifteen, and at twenty-one his mental powers were slightly impaired. The other was bright and well until his sixth year, when his calves began to increase in size; at ten years he showed want of mental vigor, and at twelve, had epileptic convulsions. In a case reported by Estrazulas, (in the American supplement to the *Obstetrical Journal of Great Britain*, etc., September, 1873), the patient was bright at his fifth year. The disease began at that date; and at the date of observation, when fourteen, his mental powers were weak.

In the case under my care the mental powers are weak, but her mother states that she was bright as a child.

In three cases epilepsy is mentioned as occurring after the disease had existed for some time; one became an epileptic at forty, a few years after the appearance of hypertrophic change.

One (Pepper[2]) at twenty began after the beginning of the disease. One (Kesteven[3]) after the disease had existed nine years. One patient (Hutchinson) had always been subject to fainting-fits.

In all of these the family history was good.

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[1] *Journal of Mental Science*, vol. xvi., April, 1870, p. 41.

[2] *Loc. cit.*

[3] *Loc. cit.*

In ten cases the ophthalmoscopic examination of the eyes is reported. In only two was any change found: in one (Brown[1]) the vessels of the optic disk were small, and the papillary margin showed pigment maceration; in the other, there was some atrophy of the optic disk.

In quite a number of cases there seems to be a period in the disease during which there is neither an increase in the hypertrophy nor a diminution in the power of locomotion, before the final stage of the disease—atrophy—sets in.

This stage is mentioned only in ten cases, but from looking over the histories of all the cases there seems to be a time, in some cases longer, in others shorter, during which there is a pause in the advance of the disease. The shortest time mentioned was two years, and the longest ten years. In one case (Brunische[2]) this period, although not stated, evidently lasted eighteen years, and in a case (reported by Lutz[3]) there seems to have been a period of equal length.

In a few cases fibrillar contractions are reported to have been noticed (Wagner,[4] Griesinger,[5] Eulenburg,[6] Lutz,[7] Roth[8]). Friedreich[9] thinks that they always exist in the diseased muscles, but that they escape notice on account of the fat with which they are covered; but most observers consider that it is a very rare symptom.

Formications are mentioned in one case (Roth),[10] and numbness of the hands and feet in one (Russell).[11]

In four cases speech was slow and indistinct (Duchenne, Barth, Roth, Dahlerup); in two of these deglutition was also difficult.

The functions of the bladder and rectum are not involved, and, in those females who were old enough, menstruation was perfectly normal.

[1] *Loc. cit.*

[2] *Loc. cit.*

[3] *Arch. f. klin. Med.*, iii., 4, p. 358, 1867.

[4] *Berlin. klin. Wochenschrift*, No. 18, 1866.

[5] *Loc. cit.*

[6] *Berlin. klin. Wochenschrift*, No. 50, 1865.

[7] *Arch. f. klin. Med.*, iii., 4, 1867, p. 358.

[8] *Arch. d. Heilk.*, 1871, ii.

[9] *Uber Progressive Muskelatrophie*, Berlin, 1873.

[10] "Constatt. Jahr.," 1867, 2, 1, p. 294.

[11] *Loc. cit.*

Sensation, as a rule, is normal, but in one case it was blunted all over the body (Roquette), in one diminished below the loins (Kesteven), and one is reported as being diminished in many places (Benedikt).

A period at length arrives in the course of the disease in which all the paralytic symptoms are aggravated, in which the atrophy is more marked in those muscles which have already undergone wasting, and sometimes even in those which have been hypertrophied. The date of this period is as uncertain as that of the other stages; it may be postponed for many years, or it may follow soon upon the other changes which have been mentioned. But as in progressive muscular atrophy, so in pseudo-hypertrophic paralysis, the progress of the disease, when once well established, is onward toward certain death. These patients gradually lose all power over their muscles, and are often reduced to mere skeletons. The longest time that one affected with this disease is reported to have lived is thirty years (Müller). The shortest is two years (Webber[1]). Between these two extremes there is every degree of variation. It is a very chronic trouble, and seldom runs its course in less than six years.

In nineteen cases, the time from the first manifestation of the disease until the paralyses became so great that the patients were unable to stand, was as follows:

1 case	5 years.	7 cases	9 years.
1 “	6 “	4 “	11 “
3 cases	7 “	1 case	12 “
1 case	8 “	1 “	22 “

In a few cases flexions of the joints are mentioned as occurring late in the disease (Wagner, Estrazulas, Clark). In one case the ankle, knee, hip, and elbow joints were strongly flexed and rigid.

The termination of the disease is given in thirteen cases:

Two died of phthisis: one at ten, in the eighth year of the disease; one at fifteen, in the twelfth year of the disease.

Three died of pleuro-pneumonia: one at fourteen, in the twelfth year of the disease; one at nineteen, in the twelfth year of the disease; one at thirteen, in the eighth year of the disease.

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[1] *Boston Medical and Surgical Journal*, November 17, 1870.

One, of a low form of pneumonia in his fourteenth year—eleventh of disease.

Three of pneumonia: one at five, in the second year of the disease; one at forty-three, in the seventh year of the disease; one at thirty-four, in the thirtieth year of the disease.

Two of bronchitis: one at fourteen, in the tenth year of the disease; one at about twelve years.

One from hypertrophy of the heart, at eighteen.

One, from croup, at nineteen, in the fourteenth year of the disease.

The pathological anatomy of the disease may be considered under two heads, namely, that of the muscles themselves, and that of the nervous centres.

First, in regard to the muscles.

In my own case, I removed, last December, small pieces of the muscular tissue from the left gastrocnemius, sacro-lumbalis, left deltoid, left biceps brachii, tibialis anticus, and left vastus externus. The gastrocnemius, sacro-lumbalis, and deltoid, were hard, and the rest were soft and flabby, but I do not think atrophied, except it was the tibialis anticus.

The muscles were examined when fresh. The following is the report of Dr. Bull, who made the examination for me: Gastrocnemius, muscular fibres of normal size, but with irregularly serrated, or rather roughly-scalloped edges. Little or no connective tissue between the individual fibrillæ, but bundles of fibrils are surrounded by very-much-hypertrophied connective tissue, the transverse striation in most of them still plain, the longitudinal striation very distinct; in some cases very distinct nuclei present.

In most of the connective-tissue fibres, more or less fat-globules, which were so numerous in many fibres as to constitute an actual fatty degeneration.

Deltoid.—The same relative arrangement and increase of connective tissue. The muscular fibres are notched, or scalloped, as in the gastrocnemius. Transverse striation very distinct. Longitudinal striation less distinct than in the gastrocnemius, very little fatty deposit in or between the fibres.

Muscular fibres have a general homogeneous, almost structureless appearance.

Biceps Brachii.—Same arrangement of connective tissue. Transverse and longitudinal striation tolerably well marked, scarcely any fatty deposit, and in some places fibres have a structureless appearance like empty sarcolemma.

Tibialis Anticus.—Connective tissue scarcely present at all, muscular fibre very little notched, transverse striation faint, longitudinal striation very plain. Quite a considerable deposit of fat-globules in and between the muscular fibres.

From numerous microscopic examinations of the muscular tissue in pseudo-hypertrophic paralysis, certain pathological changes are found common to all. The earliest change noticed is in the delicate interstitial connective tissue, which in the normal state scarcely separates the primitive muscular fibres from one another; this is increased in quantity, and in time is replaced by thicker bands, the diameter of which at certain points equals, or even exceeds, that of the muscular fibres themselves (Charcot)[1]. This tissue is of recent formation; in the earliest period of the disease the fibres are studded with nuclei, embryoplastic or fusiform cells; but in those muscles in which the change is more advanced, the nuclei and cells are diminished in numbers, and the bundles are formed exclusively of fasciculi of long, undulating fibres (Charcot). While these changes are going on in the interfibrillar connective tissue, the larger quantities of the same tissue between the muscular bundles undergo correspondingly larger increase (Butlin[2]). Section made in various directions shows that this increase is between the muscular fibres, separating them from one another, often to a considerable distance (Butlin).

After this hyperplasia has gone on for some time, another change is noticed: there are seen fatty cells, at first scattered here and there between the bundles of connective tissue; these increase in number and coalesce, forming for themselves interspaces or meshes between the newly-formed fibrous tissue, the deposit being more abundant where the connective tissue is in greatest quantity (Butlin), so that at last it distends more and more the cellular elements, which gradually disappear, so that the muscle consists mainly of fatty tissue,[1] that is, in those muscles that are enlarged (Charcot, Butlin, Clark, Duchenne). In those muscles which do not undergo hypertrophy, but on the other hand atrophy, examinations do not agree; in one case where the deltoid was wasted (Pepper), the only difference between it and the gastrocnemius, which was enlarged, was, that in the former there was less fat found; in another case (Estrazulas) there was no increase in the interstitial connective tissue, nor any fat. In one case (Roth) the subcutaneous fat was greatly increased in quantity and dipped down between the individual muscles. When the fatty substitution has reached its utmost limits, the appearance of the muscle on section to the naked eye is that of fatty tissue; all muscular structure seems to have disappeared (Charcot), and microscopic examination of such a muscle shows it to consist of distended fatty cells and a considerable amount of connective tissue (Clark). But Charcot states that he found some muscular fibres perfectly normal in a muscle that on inspection appeared to consist entirely of fat.

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[1] *Archives de Physiologie*, March, 1872.

[2] *Loc. cit.*

While these changes are going on in the connective tissue, some of the primitive muscular fibres become altered in appearance, while others, on the other hand, undergo but little, if any, change. The earliest alteration noticed is in their color; they become pale, and the transverse striation becomes faint, or entirely disappears, while the longitudinal markings become more distinct (Duchenne, Clark, and others); later, in some fibres both the longitudinal and transverse striation have disappeared, and the fibres present a hyaline or ground-glass appearance (Charcot, Pepper). Many fibres, later on in the disease, undergo atrophy, especially in their diameters, some being reduced to one-quarter, while with others it is necessary to use the greatest care to distinguish them from the connective tissue (Charcot). Some observers (Cohnheim, Butlin, Russell) mention fragments of greater or less length with distinct outlines, which were looked upon as empty sarcolemma-sheaths. Clark found the same appearance, and, on carefully following them up for a little distance, transverse striation showed itself, at first faint, then more distinct, until the aspect of distinct fibres was assumed.

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[1] In Russell's case there was no fatty infiltration; the change consisted only of a hyperplasia of the connective tissue.

The muscular fibres do not undergo any fatty degeneration; almost all observers state distinctly that they fail to find any fat-cell within the sarcolemma-sheath in the majority of fibres. Roth states that a few fibres exhibited this change.

Some fibres, and these of small diameter, present an appearance as though the sarcos element was finely divided, giving them a granular appearance (Charcot, Clark).

In two cases the muscular fibres were larger than normal (Pepper, Lyden). Pepper considers that they may temporarily share in the exaggerated nutrition; he found some of the fibres of the gastrocnemius one-third wider than normal.

Cohnheim mentions a division or splitting of the muscular fibres into two or even three sections of equal width.

Roth reports a swollen condition of the muscular fibres in an enlarged gastrocnemius.

In one case (Clark) some of the muscular fibres were narrower at one place than at another, but I do not find any reference to a notched or scalloped appearance, as in my own case.

These changes in the fibres take place earlier in some than in others; so that there are often found those which have undergone atrophy, side by side with those that are perfectly normal, or are even increased in size (Eulenburg, Knoll,[1] Müller); these changes have been looked upon by some as compensatory in their character. The change, then, in the muscular fibres would seem to be a gradual, simple, progressive atrophy, not accompanied by any fatty degeneration such as is found in progressive muscular atrophy, preceded by a hyperplasia of the connective tissue.

But six *post-mortem* examinations have been recorded in which the nervous centres were carefully examined, namely by Cohnheim, Barth, Kesteven, Charcot, J. Lockhart Clark, and Müller.

In 1865 Cohnheim examined the cord and nerves, including the sympathetic, in a case in which the disease had reached an advanced stage, and found them all perfectly healthy ("Constatt. Jahrb.," 1866, ii., p. 261).

[1] "Wien. med. Jahrb.," i., 1872.

Kesteven, in a patient who had been for some years an epileptic, with failing mental powers, so that at the time of his death he was an imbecile, and in whom the disease had passed into its last stage, found the perivascular canals dilated and circumscribed spots of granular degeneration scattered through both brain and spinal cord. The *cells* of the *gray* matter both in the brain and cord retained their normal character (*Journal of Mental Science*, April, 1870).

Barth, in a man forty-three years old, who exhibited symptoms not usually found in those suffering from pseudo-hypertrophic paralysis, found the spinal canal lined with a layer of fatty tissue, so that the dura mater was crowded very far inward; the intervertebral substance was infiltrated with fat, the ganglia were surrounded by fat, which extended through the intervertebral foramen. The spinal cord was of normal thickness. After being hardened in chromic acid, and colored with carmine, on sections being made, there was found gelatinous degeneration of the neuroglia in the anterior gray matter and lateral columns, degeneration of the nerve-fibre, and in their place was found a granular mass with numerous corpora amylacea. As far as the cervical portion was concerned, the changes had occurred more in the lateral columns, while in the dorsal region the anterior were also affected; in the lumbar portion the alteration was more marked than in the cervical (*Arch. d. Heilk.*, 1871).

Müller, in a woman twenty-four years old, the subject of dementia, reports disease of the brain—gray degeneration of the lateral columns. There was also an excess of fatty cells in the cellular tissue around the spinal cord, and fatty deposits in the cord itself ("Beiträge zur Anat. des mensch. Rückenmarks"). The interstitial connective tissue in the tibial, sciatic, and perineal nerves, was increased in quantity and infiltrated with fat.

Charcot (*Archives de Physiologie*, March, 1872) reports the examination in a case where the disease had existed ten years. Sections were made from different regions of the cord, and also from the sciatic, radial, and median nerves; these were hardened in chromic acid, colored with carmine, and prepared with great care. The result of the examination was absolutely negative. Everywhere the white antero-lateral and posterior columns were in a state of perfect integrity. The gray substance, which was made the object of special study, did not present any trace of alteration. The anterior horns were neither atrophied nor deformed; the neuroglia had its normal appearance; the motor cells, in normal numbers, did not show, in their different parts, any deviation from the physiological type. The spinal roots, anterior as well as posterior, appeared equally healthy. Examination of the sciatic, median, and radial nerves showed that they were perfectly healthy.

Within the past year Dr. J. Lockhart Clark[1] has reported the result of an examination of this disease in a boy, whose muscles were in the most advanced stage, that of atrophy, not only of those muscles not hypertrophied, but even of those that had at one time shown this condition in a marked degree. There was no affection of the mind; the sphincters acted well.

"The brain, medulla oblongata, and meninges of the cord, were healthy. The spinal cord presented various changes throughout the cervical, dorsal, and lumbar region. The most important was disintegration of the gray substance of the anterior, lower, and central portions of each lateral half. In some places this had occurred chiefly around the vessels, but in others it involved extensive areas; about the level of the last dorsal nerves it had amounted to almost total destruction of gray matter on each side, between the posterior vesicular columns. Other changes, as disintegration of the nerve-roots, commencing sclerosis of the lateral and posterior columns, destruction of the white commissure in various places, dilatation of vessels, and extravasations, were noticed.—("Medico-Chir. Trans.," 1874.)

In looking over the results of the examination in these six cases, it is evident that the alterations found are very diverse, and seem to deny that there is found in the spinal cord any lesion common to all cases.

Müller's and Kesteven's cases must be discarded, as the concomitant diseases, paralytic dementia, and imbecility with epilepsy, would throw doubt on the pathological signification of the lesion found, being similar to changes described by writers on these diseases.

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[1] *Loc. cit.*

Barth's case is not open to as weighty objections, although the acute pain in the limbs, its initial symptoms, the ptosis, as well as other groups of symptoms not found in pseudo-hypertrophic paralysis, might justly raise the question of its non-identity with the disease under consideration.

Barth reports disintegration of the nerve-fibres in the gray matter of the lateral column.

Clark found similar changes, together with disintegration of the nerve-roots, sclerosis of the posterior columns, and lesions found associated with other diseases, in which there is no clinical history of hypertrophy. The result of the careful examination of Charcot seems to prove the fact that the disease may run its course without any appreciable lesion of the cord, or peripheral nerves, and that the changes found in the spinal cord are not necessarily connected with the change in the muscles.

The supposed exciting cause is reported in a few of the cases. In three the disease seemed to come on after an attack of measles (Stoffila, Griesinger); and in another (Uhde) the disease made more rapid progress after an attack of rubeola. In two cases the disease is ascribed to cold and damp rooms, one to sitting on the damp ground; two had chronic diarrhœa in infancy.

A case is reported by Kesteven of a boy aged seventeen years, healthy and well-formed, with a good family history, who, when he was fifteen years of age, fell backward from a chaise, striking on his back. He suffered no ill effects from the accident, beyond a severe pain extending around his body on the level of the umbilicus; this, however, soon passed away. Some time after, difficulty in walking was experienced, followed by the other characteristic symptoms of pseudo-hypertrophic paralysis.

In another case (Müller) the disease is ascribed to a fall from bed.

Racowac mentions a rapid increase in the symptoms after an acute disease.

But little can be said in regard to treatment. In seventeen cases, two are reported cured by Duchenne faradization, aided by massage and hydropathy; both of these patients were in the early stage of the disease; treatment extended over the space of six months.

Three are reported by Benedikt as improved, one by faradization, and two by galvanization of the sympathetic. One of these suffered a relapse in four months, but improved again on resuming the galvanic treatment.

Eight patients derived no benefit from faradization, four no benefit from any kind of treatment.

In the case reported by Uhde (*Arch. klin. Chir.*, 1874, p. 517), of a boy eleven years old, in whom the disease had existed five or six years, whose gastrocnemii were enormously enlarged, as well as other muscles of the lower portion of his body, while the upper extremities were atrophied, and who was unable to stand, gymnastics and faradization were employed. On October 29th tenotomy of the tendo-Achillis on both sides was done, together with that of the plantar fascia. One month later he could get out of bed and stand, and by December 25th could walk with support. About the middle of January he could go up-stairs without aid.

In one of the cases reported by Meryon, no benefit was gained by tenotomy and orthopædic treatment, under supervision of Mr. Tamplin. Mr. Adams obtained no permanent benefit from similar treatment.

It remains, in conclusion, to mention the different theories advanced by pathologists in regard to this disease. Duchenne is inclined to think that the paralysis is due to a formative irritation, which produces proliferation of the connective tissue in the muscles, but is at a loss to explain the cause of this irritation.

Cohnheim considers the disease a general lypomatosis.

Charcot states that it is not due to any appreciable change in the spinal cord, but is inclined to attribute it to some lesion of the sympathetic; while Dr. J. L. Clark is satisfied that the changes in the cord, which he has described, are connected with those found in the muscles as their cause. Kesteven advocates the same views.

Friedreich, in his work above referred to, in which he devotes considerable space to the consideration of pseudo-hypertrophic paralysis, considers it as identical with progressive muscular atrophy, and looks upon the enlargement of some muscles as an accidental process in the course of the latter disease.

He considers that "in both diseases the cause of the atrophy begins within the muscular tissue, as an active inflammatory process, which in its histological characteristics corresponds with other forms of chronic myositis. Sooner or later the inflammatory irritation communicates itself to the intra-muscular nerves, which further is propagated to the nerve-trunks, and thus to the cord;" and that the morbid process may come to a stand-still at any stage of its course. He in this way reconciles the contradictory results of the examination of the cord. But he fails to assign any cause for this inflammation of the muscular tissue.

If the morbid process extends from the muscles to the nerves by contiguity of tissue, and thus to the cord, why do we so seldom find the functions of the nerves of sensation altered?

If the views of Vulpian, Bidder, and Waller, are correct, that the fibres connecting the two great divisions of the nervous system pass both ways to and from the cord to the ganglia of the sympathetic, and that those fibres passing from the ganglia to the cord are for the purpose of supplying it (the cord) with trophic nerves, while those going to the muscles from the same ganglia preside over their nutrition, what might be the effect of a morbid change taking place in the ganglia? Might it not in one case involve those cells which preside over the nutrition of the muscles, and in another case involve those going to the cord as well?

ART. III.—*Urinary Calculus in China.* By J. G. KERR, M. D., Canton, China.

IN the October number of this JOURNAL, for 1871, some account was given of the operations for stone, in the Medical Missionary Society's Hospital, Canton, China. In that paper it was stated that 217 patients had been operated on; 187 by lithotomy, and 30 by lithotrity.

During the succeeding four years 114 cases were operated on by lithotomy, and 37 by lithotrity, making a total of 151 cases.

In the annexed tables, similar to those given in 1871, the number of cases operated on at different ages is given, divided into decennial periods, and the number of fatal cases for each period:

LITHOTOMY.

AGES.	Operat'ns, 1871–'74.	Deaths, 1871–'74.	Total operatn's.	Total deaths.
Under 10 years	35	2	54	3
10 years and under 20	17	0	63	3
20 " " 30	22	1	55	3
30 " " 40	20	1	60	5
40 " " 50	12	0	34	2
50 " " 60	6	3	27	7
60 " " 70	2	0	7	2
70 " " 80			1	1
Total	114	7	301	26

LITHOTRITY.

AGES.	1871–'74.	1871–'74.	Total operat'ns.	Total deaths.
20 years and under 30	6	0	10	0
30 " " 40	6	0	14	2
40 " " 50	9	0	14	1
50 " " 60	5	0	10	0
60 " " 70	10	1	15	2
70 " " 80	1	0	4	0
Total	37	1	67	5

An examination of the tables will show that for persons over fifty lithotrity is the safest operation; while for those under that age the knife gives the best results. Taking cases individually, however, there are many exceptions; some over fifty having made rapid and favorable recoveries. In many cases it is difficult to decide which is the most suitable operation, and among my patients there were many who, on account of unwholesome food and bad habits of life, could not be pronounced fit to undergo either operation.

In general, the Chinese prefer the use of the knife, because it gives a quicker result. They do not like the delay involved in breaking the stone, and I have been disappointed in finding some patients determined to leave when the half of the stone had been brought away.

In most of the cases included in the above tables, there was nothing of special interest, and a detailed account of them would be unprofitable. My time is occupied in translating medical works into Chinese, in order to give this great empire the knowledge of rational medicine and surgery, and this seems more important than to give special attention to the study of cases.

In a few of the cases there was something unusual, and the facts in reference to them are appended:

Case No. 234.—Besides the principal stone, which weighed three drachms, there were also twenty-two smaller ones, varying in size from a millet-seed to that of a bean. These calculi were nearly all small enough to have passed away through the urethra, but some of them were loosely adherent to the principal stone when it was extracted, and it may be that all were so before being disturbed by the forceps.

Case No. 241.—The stone in this case weighed six ounces, and it was broken up with a chisel and mallet, a procedure which I have employed successfully in five or six cases.

Case No. 275.—In this case the stone was very soft, and one sitting with the lithotrite broke it into numerous fragments, which became again and again impacted in the urethra, and required removal so frequently that the irritation began to be dangerous. I therefore determined to cut, and performed median lithotomy, as I expected to meet with no large pieces. Half an ounce of fragments was removed, and as much more, the result of one crushing, had passed by the urethra. An hour-glass contraction of the bladder existed, and there was some difficulty in clearing out the superior cavity. The patient made a good recovery.

Recurrent Stone.—In cases 262, 270, 282, 292, and 304, lithotomy had been performed from three to ten years previously, and the disease had returned, requiring a second operation. Another case of recurrent stone came under my observation, but the patient was so far reduced, and the stone had attained so large a size, that it was considered unadvisable to operate.

Stone in the Female.—During the last year a little girl seven years old (Case No. 343) was operated on with success. This was the only case I have met in which a Chinese female was known to have calculus. I have suspected its existence in a few cases, but have not been allowed to examine with the sound.

Case No. 370.—In this case the bladder was divided by a septum into two compartments, and each contained a stone. The opening in the septum was about the size of a goose-quill, and it was easily dilated with the finger. This case was operated on in January, 1875, and is not included in the above tables.

Art. IV.—*The Pathological Anatomy of Erysipelas.* By L. Putzel, M. D., New York.

During the last few years medical literature has been teeming with discussions on the bacterial origin of disease. Of late, the relations of these organisms to the production and propagation of erysipelas have been an especial subject of investigation, and, during the autumn of last year, Von Recklinghausen and his pupil, Lukomsky, affirmed, as the result of their labors in this field, that micrococci were the active agents in the development of erysipelas. In view of the statements recently made in opposition to these views, by such distinguished pathologists as Robin and Billroth, the following *résumé* of the elaborate researches of Dr. Ponfick, assistant in the surgical clinic at Heidelberg, which were made in 1866, but which have never before appeared in English, will probably prove of interest to our readers. It is condensed from a series of articles in the *Deutsche Klinik.*

Dr. Ponfick examined eleven cases of erysipelas, of which only three were typical examples of the disease, five being attended with serious complications, while in three cases the erysipelatous inflammation played an unimportant part in producing the fatal termination. In addition, Dr. Ponfick inoculated the sero-purulent liquid from an erysipelatous vesicle under the skin of two rabbits, and after a short illness, attended with high temperature, *post-mortem* examination showed appearances identical with those now to be described as having been found in the fatal cases of erysipelas.

The condition of the organs in the latter disease was as follows:

Heart.—Flabby, friable, pale color. The transverse striæ of the muscular fibre had partly disappeared. There was finely-granular, and, in marked cases, fatty degeneration of the fibrillæ.

Muscles of the trunk and extremities were in the same condition as the heart, but the morbid changes were not so marked in degree.

Spleen.—Some degree of enlargement and softening was always present. The parenchyma was bright red, soft, often almost fluid; Malpighian bodies mostly plainly visible and hyperplastic.

Portal and Mesenteric Glands.—Usually swollen, injected, and hyperplastic.

Liver.—This presented the evidences of acute parenchymatous inflammation (cloudiness, enlargement, paleness, friability). The liver-cells were swollen, and contained albuminous and fatty granules. The nuclei were frequently indistinct, sometimes absent. In marked cases, the cells were completely filled with fat and pigment-granules.

Kidneys.—Had likewise undergone acute parenchymatous inflammation (cloudiness, enlargement, pallor, friability); they were usually anæmic, especially the cortex. Epithelium of tubules in first stages somewhat swollen, dull, shining, and cloudy from the presence of albuminous and fatty particles. In advanced stages the cells were filled with a greater number of fatty particles; the nuclei were mostly pale and cloudy, sometimes increased in number, sometimes absent.

Blood-Vessels.—The endothelial cells were swollen and cloudy; nucleus pale and indistinct, sometimes two present, sometimes none. In more advanced cases the cells contained well-marked, sharply-refracting oil-granules, and were sometimes entirely degenerated. The tissue of the tunica intima was infiltrated with large and small fat-granules, chiefly diffused between the bundles of elastic fibres; a considerable amount of free fat was also present. In only two cases was the middle coat examined, and in these the muscular fibres were clouded by numerous fine granules.

Changes similar to those just described were also found in the organs of those who died from diseases other than erysipelas, but which were attended by prolonged high fever.

It is, therefore, highly probable that the blood-vessels (three inner coats), heart, muscles, and large glandular viscera, become affected by acute parenchymatous inflammation in erysipelas, as well as in other diseases accompanied by continued high temperature.

May not the hitherto inexplicable *hæmorrhages* in the various organs and tissues of the body after severe and prolonged attacks of erysipelas, typhoid fever, variola, scarlatina, pyæmia, etc., stand in causal relations to the above-described changes? Prof. Weber has shown that by the absorption of pyogenic matter the blood becomes an "inflammation-producing" fluid. It is, therefore, but natural that in erysipelas this quality of the blood should first act upon the vessels, and then upon the spleen, liver, and kidneys—organs which are so necessary to the production of blood.

Art. V.—*Substitute for the Elastic Stocking.* By Walter H. O'Neal, Physician to Adams County Almshouse, Gettysburg, Pa.

The following device was originated by my father, Dr. J. W. C. O'Neal, and has been used in the wards of the hospital under my care. It is cheap, efficient, and easily prepared.

To a limb requiring support, a well-fitting bandage is applied, over which and on either side a coat of well-made and strained starch is added. Then pasteboard softened in liquid starch is applied, leaving a line of unstiffened material, front and back. Over this is added a bandage, which, in turn, is secured by paste. The limb is now suffered to lie quiet until the apparatus hardens.

To remove the hardened bandage, cut along the unstiffened seams, and dress them bookbinder fashion, with strips of pasted muslin. Cover the inside with pasted strips to prevent creasing. In this way, and in two parts, a perfect case is made for a diseased limb, which may be removed and reapplied with little trouble, and by almost anybody, as often as necessary. The case is kept free from impurities, smell, etc., by sponging on the inside with a solution of carbolic acid (ʒj to a quart of water). It is kept clean by first applying an ordinary bandage to the limb, and securing it by the ordinary roller.

This appliance is not designed to take the place of the elastic stocking among a class of persons who can afford the outlay, but as a substitute for it, for use by the country practitioner, and in the wards of a hospital, away from the ordinary conveniences to which city professional gentlemen have access.

Clinical Records from Private and Hospital Practice.

I.—*A Case of Poisoning by Oil of Winter-green.* By Allan McLane Hamilton, M. D.

I was called, during the afternoon of February 9th, to see a patient who had accidentally poisoned herself. An hour before my being sent for, she had poured a quantity of oil of wintergreen, about half an ounce, into a wine-glass, and after swallowing a half-ounce of cod-liver oil, which she had been in the habit of taking daily for some months, drank the wintergreen she had prepared. She had been directed by some friend to use this substance to disguise the taste of the oil, and was entirely ignorant of its properties.

An hour elapsed before I saw her, during which time she complained of dizziness and drowsiness, and, not thinking these symptoms were indicative of anything wrong, nothing was done by her mother and sister, who were with her, until marked delirium was observed, when it flashed across their minds that she had poisoned herself. An emetic (sulphate of zinc, ten grains) was procured from the nearest druggist and administered. I saw her shortly after the emetic had been given, and found her vomiting freely. The fluid vomited was coated with a film of the oil of winter-green, which gave forth its characteristic odor, and contained numerous shreds of mucous membrane, undoubtedly from the fauces, œsophagus, and stomach. She was talking lightly, and was not unconscious. Her head was very hot and the temporal arteries and veins were distended, the former pulsating strongly. Her pupils were contracted, and her eyes were exceedingly bright. The extremities were cold, particularly the feet. Her respiration was quick and labored, and she was restless and uneasy, moving from one side of the bed to the other. From her mouth poured a large quantity of saliva, so much as to attract the special attention of those around her. She complained of the intense cerebral pain and "noise in the ears," which she compared to the "buzzing of bees." She also complained of disturbed vision. Forty grains of the sodic bromide in a large quantity water was given, but she instantly threw it up. Ice and wet cloths were applied to the head. As the emetic had done its work thoroughly, I did not repeat it, nor use the stomach-pump. She did not complain of any pain that would naturally be supposed to exist with the gastritis. She only spoke of a slight feeling of warmth. I next administered an ounce of pure glycerine, which was retained. The cerebral pain lasting, I applied mustard-plasters to the calves, hot bottles to the feet, and rubbed the body with alcohol. The pain was severe just below the occiput, and she complained of a tense feeling of the skin of the head and face. The pupils were contracted and afterward dilated. She had hallucinations of hearing, and spoke of the "ringing of bells." Hallucinations of vision were also present. The heads of those persons about her were twice their usual size, she said. A half-hour after my first seeing her she showed an irresistible desire to sleep. All the ordinary means used in narcotic poisoning were brought to play. Slapping the face, cold douches of ice-water, and diluted ammonia were powerless. I directed that she should have coffee, and nearly four ounces of *café noir* were given. This acted beneficially, but only for a short time. I had fortunately taken my faradic battery with me, as I always do in such cases, and it was the work of a moment to attach the pole-cords. One pole was placed over the epigastrium and the other over the fourth cervical vertebra, and a brisk and strong current transmitted. The fork of the instrument (one of the Galvano-Faradic Co.'s two-cell batteries) was lowered so that slow intermissions were obtained. This agent was sufficient to keep her awake when all the others had failed, but it was just possible to prevent her from passing into a state of coma. In fifteen minutes more coffee was given, and the lower pole placed over the apex of the heart. As I feared the battery would not hold out, I sent to my office, which was near the patient's house, for a large Bunsen cell, but happily it was not needed, for the suspension of a few minutes, a period sufficient for changing, would have proved fatal. The battery was applied for two hours and a half, and then I deemed it safe to stop. The coffee was kept up, however, and by the strenuous efforts of her family she was kept awake till midnight, when I allowed her to fall asleep; she needed no invitation, but sank into a profound sleep, and awoke in the morning. During the night there were many startings and tremors of the whole body. The secretion of saliva continued uninterruptedly till the next afternoon, and the hallucinations were present in a slight degree. She found the floor remarkably unsteady, as is the case with sea-sick people, and the walls occasionally threatened to fall upon her. Milk and glycerine were given, the latter combined with the subcarbonate of bismuth, but this latter nauseated her so that she was obliged to dispense with it, and take pure glycerine; at the same time she took five drops of tincture of belladonna.

A peculiar feature of the condition was a hemiparesis of the left side. There was notable loss of power of the left hand. During the attack there was an extreme irritability of the nervous system. If spoken to, she would start violently, just as one does in sleep when suddenly awakened. At these times she was almost maniacal as far as expression was concerned. Her face was very much swollen.

For several days she has been gradually improving, and now (nearly two weeks after the poisoning) she is convalescing. Her abnormality of vision continues. There are blurring and slight hallucinations occasionally. I am unable with the ophthalmoscope to see any changes at the fundus. The hemiparesis is gone to a great degree.

The peculiarity of this case is the almost entire absence of gastric symptoms. The pain was never intense, and is only produced now by the swallowing of hard substances; there was no purging at any time. The head-symptoms are unusual, particularly those subsequent to the first prostration. The hemiparesis and spasms are also unique symptoms that indicate the powerful influence of this poison upon the nervous system.

I am indebted to Dr. F. H. Rankin for valuable assistance during the progress of the case.

The literature of this branch of toxicology is meagre in the extreme. With the exception of cases mentioned in Beck's "Medical Jurisprudence" and Stillé's "Materia Medica," I am unable to find any thing relating to poisoning by the *oleum Gaultheria.*

In the first work the cases of six soldiers are mentioned who were accidentally poisoned by a tea made of winter-green. In them, cold sweat, vertigo, weakness, and vomiting, were produced, and in one case insensibility. Dr. Gallagher relates a case in the Philadelphia *Medical Examiner*, vol. iii., p. 347, quoted by Stillé, p. 593: A boy, aged nine years, took half an ounce of the oil. He was seized with "severe vomiting, purging, epigastric pain, hot skin, frequent pulse, slow and labored respiration, dullness of hearing, and an uncontrollable desire for food." He continued very ill, but in two weeks recovered his health. This substance is classed by Dunglison under the head of "acro-narcotic poisons," but he says very little of its properties. A case is alluded to in the U. S. Dispensatory where one ounce had been taken with fatal effect.

II.—*Epileptiform Convulsions produced by Phimosis.*[1] By John Thompson, M. D., Albany, N. Y.

Mr. M., aged twenty years, from infancy was subject to phimosis, and when growing up to manhood became a confirmed masturbator. This partially destroyed his mind, and gave him a silly appearance. At times he was subject to epileptic seizures, after which he would practise masturbation. At no time would these spasms occur except when the penis was irritated.

In August, 1871, with the assistance of Drs. Craig and O'Leary, the patient was brought under the influence of ether and examined. The prepuce was long and contracted at the orifice, and composed of a hard, inelastic cartilage, extending back over the glans penis. The body of the penis was well developed, the glans, which was small and pointed, could be slightly seen when the foreskin was drawn back. The mucous membrane of the glans was very frail, and easily lacerated, owing to the constant pressure of the strictured foreskin, together with the sebaceous secretions always present.

I introduced into the opening of the prepuce a small director, to the corona, or beyond the cartilaginous ring, and then, with one sweep of a curved bistoury, severed the strictured portion of the prepuce. I then trimmed the flaps well back with curved scissors. The integument and mucous membrane were drawn together with a few fine silk sutures, and the operation thus completed. The treatment consisted of simple applications of cold water. The parts healed by first intention.

In reviewing the literature on this subject, I find three cases reported by Prof. L. A. Sayre, of New York, before the American Medical Association in 1870. By reference to Aitkin's "Practice of Medicine," I notice that Dr. Todd advanced a theory of the disease suggested by the occasional occurrence of epilepsy with renal affections. He held that the peculiar features of an epileptic are due to the gradual accumulation of morbid material in the blood until it reaches such an amount as to operate upon the brain, as it were, in an explosive manner. "There are certain vices," writes Dr. Watson, "which are justly considered as influential in aggravating and even in creating a disposition to epilepsy. Debauches of all kinds, the habitual influence of intoxicating liquors, and, above all, the most powerful predisposing cause of any not congenital, is masturbation."

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[1] Read before the Medical Society of the County of Albany, March 31, 1875.

The general practitioner is often called upon to prescribe for children whose mothers will say that they cannot urinate, or, if so, that the urine is scalding, and the effort causes the child to cry. As physicians, it is our duty to examine the prepuce and the penis, and we may often find an impacted foreskin. The lips of the prepuce may be excoriated from wet napkins, not removed often enough to keep the urine from irritating the integument.

The law of circumcision practised by the Israelites is beneficial in a sanitary point, as it prevents not only filthiness, but much suffering both in infancy and after-life.

III.—*Case of Hyperidrosis; Cure.*[1] By John M. Bigelow, A. M., M. D., Albany, N. Y.

On January 20, 1875, Mr. C. H. D., a clerk, aged twenty-six years, stout and healthy-looking, consulted me with reference to the above-mentioned infirmity. On questioning him I discovered no hereditary or acquired taint of scrofula, phthisis, or syphilis. He had been troubled with this complaint for about six years; and, during this time, had suffered, in addition to physical pain, so much mortification that he had shunned all society and social enjoyment. "So terrible was the *stench* from my sweating feet," he strongly stated, "that I would not even attend places of amusement or social gatherings." On inspection, his feet were found bathed in an extremely abundant, acrid, fetid secretion, the soles were fissured, and the spaces between the toes were chapped; the skin presented a parboiled appearance, and was very tender.

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[1] Read before the Medical Society of the County of Albany, March 31, 1875.

He had tried, with only temporary relief, brine, sugar-of-lead, carbolic acid, sulphuric acid, and other lotions. Owing to the condition of his feet, he wore cotton hose, and had powdered them with tannin.

I prescribed for him the following: Bromo-chloralum, ℥j; water, ℥ij. Apply three times daily with a soft sponge, having previously dried the feet thoroughly with hot flannel.

For a few days his hopes of cure were raised, only to be followed by a relapse more severe than ever. I then prescribed the application of equal parts of borax and lycopodium, to be worn in the socks. On February 20th he returned to my office much discouraged, and said that all treatment thus far relieved for a few days, and then became inert. I then directed him to take to his bed, and began Hardy's treatment, as introduced by Hebra. I gave no internal remedies. I applied diachylon-plaster, as follows: cutting it into strips, I twisted them around each toe separately, and also applied them to the interdigital spaces, completely enveloping the whole foot, so that every portion of the sole, dorsum, and toes of the feet was in close and immediate contact with the plaster. These strips were removed each morning, the feet carefully and thoroughly wiped with dry, heated flannel, and new plaster strips applied. This treatment was persevered in for thirteen days, and at the expiration of that time the plasters were removed, and the feet presented a healthy normal appearance, free from the troublesome hyperidrosis. Since that time (March 2d) I have seen the patient twice each week, but so far the cure is complete, and he assures me that he now enjoys comfort and ease in walking, and can avail himself of the pleasures of society without any disagreeable odor to announce his presence.

IV.—*Femoral Aneurism successfully treated by Compression.*

Reported by GEORGE D. HERSEY, M. D., late House Surgeon to Hartford Hospital.

G. P., negro, sailor, aged forty-four years, tall, muscular, and free from specific disease; while unloading a cargo of stone at Elizabethport, N. J., in December, 1873, his right thigh was accidentally caught between a heavy block of stone and the schooner's centre-board. The bruise was unnoticed at the time, as no pain or inconvenience followed. In February, 1874, the schooner was taking a cargo of lumber at Jacksonville, Florida; and, while the patient was pushing a heavy plank, he felt a sharp pain, as if stabbed, at the spot injured by the stone two months before, and the next morning I discovered a small, painless tumor in the upper inner third of the thigh. Until the next August this remained about the size of a walnut, and then, without any known exciting cause, began steadily to increase in size. As the tumor was still painless, the patient kept at work until December 31st, when œdema of the limb and darting pains through the calf of the leg caused him to apply for relief.

He was admitted to Hartford Hospital, January 2, 1875 (service of Dr. J. C. Jackson), with a saccular aneurism of the femoral artery, occupying the lower angle of Scarpa's space. The tumor was about the size of a large goose-egg, and the femoral artery was enlarged to the upper border of the space.

January 6th.—Treatment commenced by compression of the common femoral artery by means of Signoroni's tourniquet. Intermittent pressure was kept up for thirty-seven days, and on February 12th was removed to rest the patient, who was running down from the effects of confinement, and pain caused by the tourniquet. The tumor slightly smaller and harder than when treatment was begun.

February 14th.—It was discovered this morning that pulsation had ceased during the night. From this time the tumor gradually decreased in size, and tenderness on pressure disappeared.

March 28th.—Tumor about as large as a walnut. The limb as strong as the other. Pulsation of common femoral and popliteal arteries alike in both limbs.

Notes of Hospital Practice.

BELLEVUE HOSPITAL.

Extravasation of Urine following the Passage of a Catheter; Treatment by External Perineal Urethrotomy.—The patient, immediately after having a catheter passed upon him by a medical man in the city, felt something begin to flow into the scrotum. Twelve or fourteen hours afterward was admitted to hospital, when there was found an extensive extravasation of urine into the scrotum, perinæum, prepuce, and the right ischio-rectal fossa. It was decided to practise external perineal urethrotomy, with the aim of preventing any further extravasation, and also, in conjunction with free incisions, of relieving the extravasation.

The operation was performed by the house-surgeon, Dr. Bates, in the usual manner, but considerable difficulty was experienced in finding the urethra, from the fact that it was pushed aside by an abscess on the median line.

Since the operation the patient has done well.

Fracture of the Nasal Bones; Treatment with Plaster-of-Paris Dressing.—A patient received a severe injury of the face, which resulted in separation of the nasal bones from the cartilages below and the frontal bone above, and at the same time displacement of the whole of the nose to the left side. To rectify the deformity, a strip of adhesive plaster was placed on the face to the left of the root of the nose, and the organ drawn into position. Lint soaked in a paste of plaster of Paris was then pressed against the side of the nose and upon the strip of adhesive plaster. When this compress had hardened, it was secured and drawn close against the nose by another strip of adhesive plaster passing across the compress, and secured to the other side of the face. The result obtained by this dressing was nearly perfect; the only sign of injury remaining was a deep wound on the right side of the nose.

Salicylic Acid in Extensive Burn.—There has been in hospital for many months a case of extensive burn, in which different applications have been tried. Every new dressing succeeded well for a time, but soon it ceased to prove of advantage. The last agent that has been used, and is used at present, is salicylic acid. The effect is more beneficial than that obtained by any of the former remedies. The method of using it is to form an emulsion with olive-oil, one part of the salicylic acid to sixteen parts of oil. This mixture is painted over the ulcerated surface once or twice a day. It gives rise to a slight smarting sensation when first applied, but that soon passes off.

Treatment of Abscess of Breast by Compressed Sponge.—A patient had been suffering from mammary abscess for three weeks, but without any special benefit from treatment in checking the discharge of pus. It was decided to try the effect of compressed sponge, and for this purpose a sponge about ten inches in diameter was subjected to pressure and then applied by means of a bandage over the breast. After it had been in use forty-eight hours the abscess was completely cured. No pain was experienced by the patient, and in this case the opening in the breast was three inches above the dependent part of the abscess. In applying a sponge to the breast in this class of cases, it is found of advantage to compress it when dry. After it is applied to the breast and firmly secured in position, a little water is poured upon it to cause expansion and the necessary pressure.

Apparatus for Old Cases of Ununited Fracture of Patella, to enable the Patient to walk.—There has been recently a patient in hospital who had received a fracture of the patella, which did not unite. As a result of this unpleasant state of affairs, she was unable to extend the leg in walking, and found great difficulty in getting up and down stairs. She has, however, been so benefited recently by an appliance designed by Dr. Carney, of the hospital staff, that when she has it on she is enabled to walk with facility. The principle consists in using rubber as the extending power. The mode of application was to place a plaster bandage below the knee, having incorporated in its folds a loop of strong iron wire, of which the loop is projected above. A similar dressing was placed on the thigh, above the knee, with the loop of wire projecting downward. Folds of rubber were then attached to the two iron loops sufficiently strong to keep the leg extended when in a passive state. With this apparatus the patient was enabled to walk up and down stairs without inconvenience.

Wood-Sorrel in Epithelioma.—The dried extract of wood-sorrel has been used as a dressing in epithelioma, and found to be more serviceable than any thing else in relieving the pain.

Roosevelt Hospital; Treatment of Fistula in Ano by the Elastic Ligature.—The use of the elastic ligature in *fistula in ano* proves of more service than the knife in the few cases in which it has been employed. The method of applying it is to introduce the ligature by means of an eye-probe, and allow it to cut its way out, which it does in from five days to a week. It leaves behind it a granulating surface which soon heals over. In one case the knife was used, and it was two months before the cure was complete.

Salicylic Acid.—In chronic cystitis the bladder has been washed out with a solution containing one part in five hundred of water. The method of washing out the bladder has been to make four injections of one ounce each every morning and every evening. The acid not only removed the disagreeable odor of the urine, but in a short space of time freed it from pus. In empyema a solution of the same strength has been employed with very valuable results. It is used under the same circumstances as carbolic acid was formerly. In dressing suppurating surfaces, it appears to have a stimulant effect on the granulations, somewhat similar to that of carbolic acid.

Melanosis.—There is at present in this hospital quite a rare case of melanosis. The patient is covered over the entire body with a discoloration of a dark, slaty hue. There are also tumors beneath the skin, situated on the face, body, and extremities. The disease first appeared about a year ago, and advanced rapidly to the state that it has now reached. Occasionally the melanotic tumors break down and suppurate. There is no history of hereditary cancer, or of syphilis.

Mount Sinai Hospital: Hypodermic Injections; Corrosive Sublimate in Syphilis.—In this hospital hypodermic injections of corrosive sublimate in the treatment of syphilis have been made continuously, and so far without the formation of an abscess. They are specially found of advantage where the stomach is in an irritable state. The solution is made as follows:

Hydrarg. bichlorid., gr. iij.
Morphia mur., gr. ij.
Aquæ, ℥j. M.

Of this one-half drachm is used as an injection once a day for fourteen days.

Sciatica.—The treatment of sciatica is based on the view that it is usually due to malaria or syphilis, and for this purpose quinia is first given to the extent of sixty grains in twenty-four hours, followed the succeeding day by thirty or forty grains. If this fails to benefit, anti-syphilitic treatment usually proves effectual.

Correspondence.

Aplington, Iowa, *April* 5, 1875.

Editor New York Medical Journal:

In Appletons' Journal of March 27th, page 415, there is mentioned as a new discovery, by Dr. Ewald, of Berlin, Prussia, the adaptation of the siphon as an easy method of emptying the stomach. With due respect for Dr. Ewald, I object to his claims as the discoverer. Regard for my *alma mater* induces me to send you the following quotation from the *Medical News and Library*, September number, page 140. Philadelphia: H. C. Lea, 1870.

Prof. J. T. Hodgen, of the St. Louis Medical College, in speaking of a case of stricture of the œsophagus, says: "To sustain life, I resorted to a small stomach-tube (a gum-catheter, in fact), as a means of injecting liquid nourishment; to this I fixed the elastic tube of one of Davidson's syringes.

"On one occasion the vessel containing the liquid happened to be higher than the patient's stomach, and I observed, while the syringe was not being used, that the liquid continued to flow into the stomach, the action being that of a siphon. I at once, to test the siphon, substituted a simple elastic tube for the syringe, and found the stomach could be as readily emptied as filled. Thus I conceived the idea of using a siphon instead of a stomach-pump, and have used the same in a case of poisoning recently with the most complete success.

"I attach four feet of India-rubber tubing to a stomach-tube, fill both with water by simply dipping it into the liquid, end first, then compressing the elastic tube between the thumb and finger to keep the fluid from running out, introduce the stomach-tube, lower the outer end of the elastic tube, and the contents of the stomach pour out as readily as if from an open vessel. When the fluid ceases to flow, I dip the outer end of the tube beneath the surface of water, elevate the vessel containing it, and the stomach is soon filled; lower again the outer end of the tube, and the stomach is emptied. This can, of course, be repeated as often as is necessary.

"The advantages claimed for this simple contrivance are, that it may be almost always improvised, is of speedy and easy application, has no valves to become obstructed or deranged, and is less expensive than a stomach-pump."

E. L. Blackmore, M. D.

Proceedings of Societies.

BOSTON SOCIETY OF MEDICAL SCIENCES.

Report of Proceedings from October to December, 1874.

James J. Putnam, *Secretary*.

Tuesday, October 27th.—Dr. Lincoln read a paper giving the results of his observation upon the *temperature* of the air at the *Isles of Shoals*, during the summer months of the past season; a colored diagram, which embodied the same graphically, being also exhibited. The temperature had been taken under all possible precautions, three times daily, or oftener when changes in the weather made it advisable. July was found to be warmer than August, but its temperature much less equable, nine-tenths of the temperature in August lying between 70° to 60°, while of those in July at least one-half ranged above 70° or below 60°. The minimal variation (in August) was 1°, the maximal (in July) was 15°.

Taken as a whole, the temperature of the Shoals is, as is known, very equable, as compared, for example, with that of Boston: thus, for thirty-six years the average daily mean variation in Boston, according to Mr. J. P. Hall, was 13° in July, $12\frac{2}{5}^\circ$ in August; at the Shoals this summer it was $7\frac{5}{7}^\circ$ in July, $7\frac{1}{6}^\circ$ in August: further, at the Shoals the temperature at 7 P. M. was generally found to represent that of the entire night following.

In answer to a question from Dr. White, as to the influence of different winds, Dr. Lincoln said that the greatest variations occurred on days when the wind was west or southwest; the least during an easterly storm. There were no days of calm.

Dr. Bowditch showed an *apparatus* devised by himself, for *testing the depth of color* of different *specimens of water*, which is described in a report upon the purity of the different rivers around Boston, etc. ("City Document," No. 102).

The instrument (*vide* diagram) consists of two tubes, *B* and *D*, sliding, water-tight, one within the other, the lower end of each tube being closed with a disk of plate-glass. Into the large tube, *B*, just above the plate-glass disk, is inserted a piece of small tubing, which terminates in a funnel-shaped receiver, *A*. Water poured into this receiver will therefore pass into the space between the two glass disks, entirely filling the outer-tube when the inner tube is withdrawn, and again returning to the receiver when the inner tube is passed down, so that the glass disks come in contact with each other. Through an opening near the upper end of the smaller tube is inserted one end of a rhombic prism, *E*, in which total internal reflection takes place twice. This prism extends half-way across the inner tube, so that an eye, looking through the eye-piece, sees the field of vision nearly half filled by the surface of the prism (*vide* Fig. 2).

The eye-piece, *G*, contains a single lens, which is focused upon the upper surface of the prism. The position and angles of the prism are such that a ray of light, outside of and parallel to the tube *B*, is reflected first directly into the tube *D*, and then parallel to its axis, thus emerging from the prism and entering the eye-piece alongside of the rays of light which have passed through the two plate-glass disks. It will thus be seen that the conditions for comparing the color and intensity of these two sources of light are as favorable as possible.

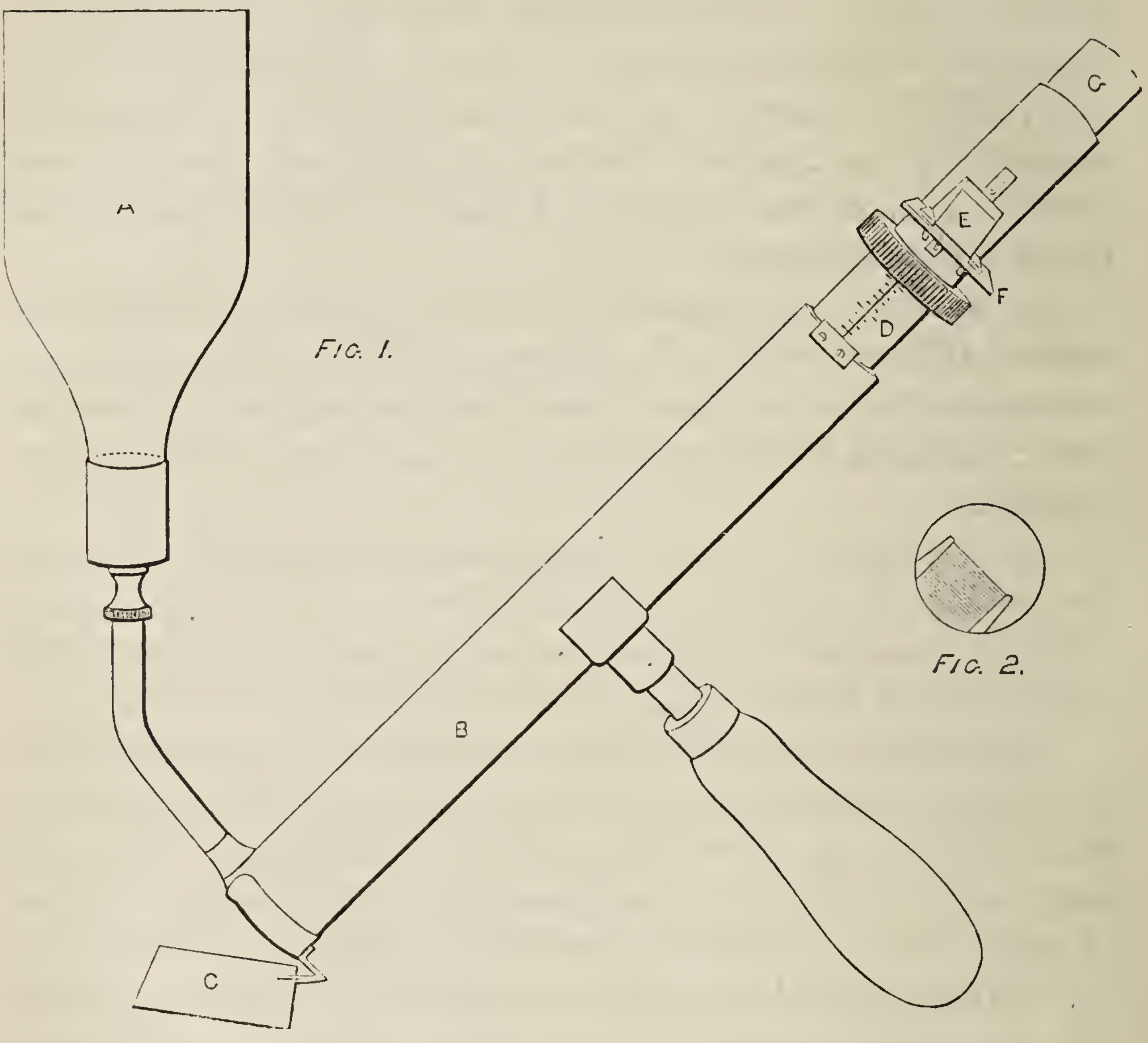

Fig. 1.

Fig. 2.

A piece of white card, *C*, fastened at the lower end of the larger tube, throws a uniform white light through both tubes, and also along the outside of the instrument into the prism.

In using the instrument, a piece of brownish-yellow glass, *F*, is placed in front of the prism, and the water whose color is to be determined is poured into the receiver.

The inner tube is then withdrawn until the column of water between the two glass disks is sufficiently long to give to the light passing through it a color equal to that imparted by the colored glass to the light passing through the prism. The length of this column of water, which will of course vary inversely with the depth of the color, can be determined by means of the scale on the inner tube.

By this means the relative intensity of color of various specimens of water may be determined with considerable accuracy.

Dr. Bowditch thought that this instrument might also be of service in connection with chemical color-tests.

In reply to Dr. ELLIS, Dr. Bowditch said that he had tried using solutions of different colors instead of colored glass, to get a standard for comparison, but found the glass the best.

Prof. A. GRAHAM BELL exhibited tracings of curves corresponding to vowel-sounds of varying pitch, made according to the method suggested by Dr. C. J. Blake, for the use of the *human membrana tympani as a phonautograph.*

The tracings were upon smoked glass. The stylus was a fibre of wheat-straw attached to the malleus, the petrous portion of the temporal bone having been cut away, exposing the inner surface of the membrana tympani. Prof. Bell had availed himself of this method of investigation in preference to the use of the ordinary phonautograph, and had made the first tracings in continuance of his investigations on the formation of the vowel and consonant sounds, in connection with his investigations on the subject of "Visible Speech," reported at the annual meeting of the Massachusetts Medical Society, June, 1873.

In behalf of the committee appointed at the last meeting to take action on the death of Prof. Wyman, Dr. DWIGHT reported the following:

Whereas, By the death of Prof. Jeffries Wyman we have been deprived of a leader, instructor, and friend, whose worth we cannot adequately acknowledge, and whose loss we cannot sufficiently deplore:

And *whereas*, his personal virtues and scientific merits, which won him universal esteem and respect, have been duly dwelt upon by his contemporaries and his pupils, it is—

Resolved, That the best tribute we can offer to his memory is to keep before us, and to strive to imitate, his example as an investigator and as a man.

On motion of Dr. White, it was voted that this resolution should be adopted, and that a copy should be sent, by the Secretary, to Prof. Wyman's family.

Tuesday, November 24th.—Dr. Jeffries gave the record of three successive tests of his own *power of vision*, made at intervals of two years. He referred to detailed reports in the "Transactions of the American Ophthalmological Society," for 1869 and 1874, and the "Report of the London Ophthalmological Congress," of 1872. The result, in brief, was that in diffused daylight in a room his power of vision was about double what is considered as the normal standard, viz., $\frac{40}{20}$, he being able to read test-type at forty feet distant, which eyes considered normal, or the average healthy eye, could only read at twenty feet distant.

In sunlight his power of vision he found to be as high as $\frac{47}{20}$ or $\frac{47}{10}$. He exhibited the various test-types used by ophthalmic surgeons, Jäger's, Snellen's, Dyer's, and Green's, and spoke of the several ways in which he had tested his own vision by means of them, the precautions taken, etc.

In answer to Dr. Edes, Dr. Jeffries said that he did not know what proportion of persons approached him in acuteness of vision, not having been able to test any great number under exactly the same conditions.

In answer to Dr. Bowditch, Dr. Jeffries said that he had also tested his vision under the light of an ordinary Argand burner, which was the light usually adopted as a standard, and had found it to be about $\frac{20}{10}$.

He had also tried it for near bright objects, using for the test-object a card with numbers of small dots arranged on it in a certain way, and had found it in this respect also better than the common, though less markedly so than with the tests first mentioned.

Dr. Wadsworth thought that the fraction $\frac{47}{10}$ could not properly be taken to represent Dr. Jeffries's power of vision under sunlight, because the standard types used were calculated for the ordinary diffused light, so that Dr. Jeffries was in fact comparing his own vision in sunlight with average vision in diffused light.

Dr. Blake read a paper on the "Mechanical Value of the

Distribution of Weight in the Ossicula Auditus," the object of the paper (subsequently published in the "Transactions of the American Otological Society," for 1874) being to show the influence which the preponderance of weight above the axial line of vibration has in increasing the facility with which the membrana tympani responds to high musical tones on contraction of the musculus tensor tympani, or on increase of tension of the membrana tympani from any cause.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 12, 1875.

Dr. Francis Delafield, President.

Disseminated Cancer.—Dr. A. L. Loomis presented, on behalf of a candidate, portions of different viscera containing cancerous deposits. One marked point of interest in the case was the fact that an enlarged gall-bladder had remained in that state for seven years, and the diagnoses of floating kidney and cancer of the duodenum and intestinal glands in that region had been made at different times by different observers. The history of the case was briefly as follows: A woman aged forty-five years, and the mother of nine children, had been in good health up to seven years ago, when she had an attack of fever, which was pronounced to be gastric. She was in average health until last January, when she began to suffer from nausea and vomiting, with constipation and diarrhœa. At that time she also noticed a tumor in the epigastric region. She came under observation in February, with but few symptoms of a positive character. The urine contained a small amount of albumen, but no casts. Her appetite was moderately good, but still there was marked emaciation. In the right hypochondriac region there was a tumor the size of a hen's-egg. The tumor had been there for seven years, but at no time was there any jaundice. It was supposed that the tumor was either malignant disease of the intestinal glands in that region, or cancer of the duodenum. During the following month the diagnosis of a floating kidney was made by a prominent medical teacher of this city. In April the inguinal glands began to enlarge, and on May 1st the patient died.

Autopsy.—There was noticed a marked absence of blood and of fat. There was fibrous pneumonia at apex of lungs, with pleuritic adhesions at base. The surface of the lung was studded with transparent nodules. The glands at the root of the lung were cancerous, and pressed upon the bronchi and laryngeal nerve. The œsophageal opening of the stomach was nearly closed with cancerous matter. The pylorus was normal. The liver contained cancerous deposits scattered over its surface. The gall-bladder contained a large cylindrical calculus, two and a half inches long by one inch in diameter, and was considerably distended with bile. Malignant disease was also found along the lumbar vertebræ and pressing on the thoracic duct. The main points of interest in the case were the rapid progress it made in four months, the fact of mistaking the distended gall-bladder for malignant disease or a floating kidney, and the absence of dyspnœa, though both the laryngeal nerve and the bronchi were pressed on by the cancerous glands at the root of the lungs. A microscopical examination showed the cancer to be of scirrhous and medullary form. Dr. Loomis said this was the third case that had come under his observation, where the diagnosis of floating kidney had been made in the case of a distended gall-bladder.

Dr. Delafield said that, during an experience of nine years at the dead-house of Bellevue Hospital, he had never seen a case of floating kidney which had been diagnosticated during life; in those cases in which a floating kidney was found no diagnosis of it had been made.

Dr. Loomis said the main diagnostic sign, in his opinion, was a feeling of discomfort complained of by the patient when the kidney was firmly grasped. The great emaciation of the patient was fully accounted for by the pressure of the cancerous mass on the thoracic duct.

Morbus Coxarius.—Dr. Gibney presented a section of the carious head of a femur which he obtained from a patient who died suffering from disease of the hip-joint. The patient was seven years of age, and when seen had both lower extremities flexed on the abdomen. A tumor which proved to be an abscess existed over the trochanter major. The patient had previously an attack of scarlet fever, followed by anasarca, and after that chorea minor developed. When the body was examined, an abscess was discovered in the apex of the lung. The kidneys were normal. An extensive abscess existed in the neighborhood of the joint, which was found to communicate with the joint through an opening in the capsule. The acetabulum was roughened and the head of the femur was extensively diseased.

Necrosis of Lower Jaw.—Dr. Post presented a specimen of necrosis of the lower jaw, which was of interest from involving the chin. Dr. Post said it was rare to find, as in this case, the necrosis in the median line. The patient was a man fifty-five years of age. There was no history of his being exposed to the influence of phosphorus or mercury. He had never had syphilis.

Tumor of the Antrum.—Dr. Post also presented a specimen of tumor of the antrum, inclosed in an osseous covering. The history of the case was that the patient first noticed it about ten years ago, and from that time till the present it had made slow growth. The lymphatic glands in the neighborhood were not involved. The tumor was removed last December, and from that time till the present there have been no signs of return. The tumor was a sarcoma encased with a covering of bony tissue. Under the finger it gave rise to a crackling sensation similar to that caused by an egg-shell.

Dr. Delafield said that these tumors of the antrum are very irregular in their recurrence. They are all sarcomata, all of the same formation, yet in some cases they will recur in a very short time, and again they may never reappear.

Hydatid Cyst of Liver.—Dr. Jacobi presented the heart and liver of a patient who died in Bellevue Hospital. The patient lived for six days after entering, and suffered from cyanosis, with dyspnœa and diminished respiration. The dyspnœa disappeared and reappeared, and eventually the patient died in an attack. An examination of the lungs revealed the presence of emphysema and bronchitis.

Autopsy.—The heart was fatty, though, from the existence of emphysema and bronchitis, hypertrophy should have been suspected. It was explained to a certain extent, however, by the fact that the patient was an inebriate. The liver was in a cirrhotic state, and while examining it an anomaly was accidentally discovered in the shape of a mass about the size of a hickory-nut. On closely examining this mass there were found different folds of a membrane and some of the horns of an echinococcus.

Fœtal Monstrosity.—Dr. Jacobi also presented a fœtus which had been expelled at the seventh month. There was entire absence of the brain and spinal cord. The vertebral canal was open for its whole length. There were present, however, the spinal nerves. Dr. Jacobi was of the opinion that this was caused by a meningitis taking place between the fourth and fifth week of fœtal life.

Intestinal Obstruction; Laparotomy.—Dr. Erskine Mason presented the intestines of a case, with the following history: The patient was an Englishwoman, forty-two years of age, and entered hospital April 26th. Nineteen years ago she had her first child, and, following it, an attack of puerperal peritonitis, but since that time had been in perfect health. On April 21st she was seized with intense pain in the abdomen, but next day she passed some fæces. When she entered hospital she complained of soreness of the abdomen, with tympanites and vomiting. Respirations were twenty-four in the minute. No tumor could be discovered, but there was marked tenderness over the hepatic flexure of the colon. The urine was normal. In order to relieve the distention, the intestines were aspirated, and the hand was then introduced into the rectum for the distance of seven inches, to endeavor to find the obstruction, but without success. On entering the anus the sphincter was found to be closely contracted, and an unusual obstruction was also encountered in the shape of the tip of the coccyx. It was then decided to perform laparotomy, and endeavor if possible to remove the obstruction. An incision, beginning at the symphysis pubis, was carried through the linea alba, to the extent of three or four inches, and the cavity of the abdomen explored. The transverse colon was found bound down by adhesions, and bands were also detected at the sigmoid flexure. These were separated, but during the operation the patient became pulseless and respiration ceased. She rallied, however, under the influence of stimulants, but again began to sink after the operation, and died in twelve hours.

Autopsy.—The intestines were found distended with gas. The ilium was found attached to the Fallopian tubes, and bound down by adhesions. This obstruction in the small intestines was overlooked, from the fact, in the opinion of Dr. Mason, that they were not distended with gas.

Erysipelas, and its Effect on a Child at the Breast.—Dr. J. LEWIS SMITH recited an interesting case in which a nurse who had erysipelas continued nursing a child, and shortly after the child developed a diarrhœa and died. The infant was seven weeks old, and continued to use the breast for two days after the nurse was affected with erysipelas. At the end of that time it was taken with a diarrhœa, and lived for three days.

Autopsy.—On opening the abdominal cavity the peritonæum was inspected, and in it two ounces of pus were found.

Endocarditis.—Dr. FRANCIS DELAFIELD presented the case of a man, aged thirty, who entered hospital suffering from endocarditis. He was in a half-starved condition, and gave no definite history beyond stating that two years previously he had severe headache, with delirium, and following this there were occasional attacks of headache, more or less severe.

Autopsy.—The heart presented signs of endocarditis and pericarditis. The endocarditis affected all of the valves. Infarctions were found in the spleen and kidneys. The brain presented an embolism in the left middle cerebral artery. There was also a small surface of softening which was not recent.

AMERICAN MEDICAL ASSOCIATION.

Twenty-sixth Annual Meeting.

THE session of the Association was held in Louisville, Kentucky, May 4th, 5th, 6th, and 7th. The President, Dr. W. K.

Bowling, delivered the annual address, directing his remarks chiefly to the subject of medical education. He urged the importance of preliminary education on the part of those undertaking the study of medicine, and suggested the appointment, by the American Medical Association, of a board of examiners for the purpose of insuring such education. The President took a hopeful view of the progress of medicine in this country, and believed the Association was doing good work in advancing the interests of the profession.

Dr. S. D. Gross, of Philadelphia, delivered an address on the subject of "Venesection as a Lost Art."

.The following delegates were proposed for permanent membership: Drs. C. J. Walton, of Mayfield, Ky.; W. S. O'Neal, Berlin, Ky.; E. D. Force and S. H. Hornor, Louisville, Ky.; W. C. Hall, Franklin, Ind.; R. D. Huley, Elizabethtown, Ky.; C. J. Renfro, Pleasureville, Ky.; and W. C. Tucker, Danville, Ky.

The following gentlemen were elected to membership by invitation: Drs. W. B. Rodman, of Frankfort, Ky.; E. Poynter, of Midway, Ky.; J. H. Rock, of Chicago; and Drs. R. Bolling and S. O. Wetherbe.

A communication was read from the Canada Medical Association, inviting the delegates from the American Medical Association to attend the meeting to be held in Halifax on the first Wednesday in August.

A communication from Dr. E. Seguin, of New York, requesting the Association to send delegates to Europe to confer with foreign medical associations in regard to the "uniformization" of clinical observations, instruments, scales, etc., was received and placed on file.

The following resolutions, communicated by Dr. J. M. Toner, were read and adopted:

Resolved, That this Association learns with regret that no action was taken by the last Congress upon its recommendation in behalf of the Medical Department of the United States Army, and that we respectfully renew our petition that Congress will enact such a bill for the benefit of the medical department of the army as will secure to its officers that share of rank and promotion to which we consider they are entitled, and which should be at least fully equal to that enjoyed by any other staff corps, or by the medical corps of any army.

Resolved, That a committee of five be appointed to call the attention of Congress to this subject, and the petitions which were forwarded to the last Congress by the physicians of the United States.

Prof. AUSTIN FLINT, chairman of the Section on Practical Medicine, presented his report, which was adopted, and referred to the Publishing Committee.

A report of Dr. J. M. TONER, regarding the organization of an International Medical Association, was referred to the Committee on Nominations.

The committee appointed by the Association, at its meeting last year, to select a medal to be presented to each member, reported that it had selected a die with the vignette of Dr. N. S. Davis, the founder of the Association, on the obverse side, and with the name and date of said Society upon the reverse; and that it had arranged for the manufacture of the medal, in bronze, at the mint in Philadelphia, at a cost of one dollar and twelve cents each, the twelve cents being for postage. The report was received and the committee instructed to order two hundred of the medals.

Drs. J. A. Adrian, E. E. Harwood, J. C. Hutchinson, H. D. Holton, J. C. Hupp, and H. R. Warner, were appointed delegates to represent the American Association in the International Medical Association to be held in Brussels, in September, 1875.

The following-named gentlemen were appointed a committee from the American Medical Association to confer with a committee from the Canadian Medical Association, which will meet at Halifax, August 5, 1875, on the subject of holding an International Convention by the two Associations:

Dr. S. D. Gross, Pennsylvania; Dr. John T. Hodgen, Missouri; Dr. Austin Flint, New York; Dr. Willoughby Walling, Kentucky; Dr. T. C. Lane, California; Dr. Wirt Johnson, Mississippi; Dr. William Brodie, Michigan; Dr. J. M. Toner, Washington; Dr. T. D. Cunningham, Virginia; Dr. E. Andrews, Illinois; Dr. William B. Atkinson, Pennsylvania; Dr. H. I. Bowditch, Massachusetts; Dr. Roberts Bartholow, Ohio.

Dr. SEELYE, of Alabama, offered a prize of one hundred dollars for the best essay on Bright's disease. Report accepted and referred.

The following gentlemen were made members by invitation:

Drs. C. J. Walton, Kentucky; E. A. Wagner, Kentucky; Tucker, Kentucky; C. J. Renfro, Kentucky; O'Neal, Kentucky; Sweeney, Kentucky; N. J. Leak, Kentucky; K. D. Hawley, Indiana; W. C. Hall, Indiana; Frederick Pointer, Indiana; W. W. Hall, Mississippi; F. Pointer, Tennessee.

Dr. J. Marion Sims, of New York, as chairman of the Special Committee appointed to devise plans for the establishment of the McDowell Memorial Fund, offered the following:

Whereas, It is universally acknowledged that the late Ephraim McDowell, of Kentucky, was the originator of the operation of ovariotomy; and—

Whereas, We believe that proper measures should be instituted to commemorate this great achievement, and to appropriate honor to its author; therefore—

Resolved, That this Association recommend to each of its members, and to the profession generally, to contribute annually such sums as they may think proper, until the amount of $10,000 shall be accumulated, which shall be known as the McDowell Memorial Fund, the interest of which shall be devoted to the payment of prizes for the best essays relating to the diseases and surgery of the ovaries.

Resolved, That this fund shall be invested by trustees, to be appointed by the Association, and subject to such regulations as it may desire.

Resolved, That the Association shall elect a board of three trustees, whose duty it shall be to carry out the object of these resolutions, and whose term of office shall continue five years.

Resolved, That this Association will leave to the State of Kentucky the grateful privilege of providing a local memorial to the memory of Dr. McDowell. Respectfully submitted: J. Marion Sims, New York; Washington L. Atlee, Pennsylvania; W. T. Byford, Illinois; J. M. Keller, Kentucky.

Dr. S. D. Gross spoke of the project in terms of approval, and subscribed one hundred dollars to the fund.

Dr. Gross, as chairman of the Centennial Medical Commission of Philadelphia, announced that it was designed to hold an International Medical Conference in Philadelphia during the Centennial celebration. Arrangements had been perfected to hold the session during September, 1876. Addresses would be then read illustrating the advance in the profession during the past century. Invitations had been sent all over the world. The hospitalities of Philadelphia were proffered. Delegates would be expected from the Association and from State Societies.

Dr. S. W. Benham, of the Judicial Council, made the following report:

The Judicial Council of the American Medical Association would respectfully report as follows:

In reference to the difficulties existing between the Allen County Medical Society, of Indiana, and the Fort Wayne Medical Association, of Indiana, we would respectfully refer the whole subject to the State Medical Society of Indiana for adjudication. In reference to the Arkansas State Medical Association, the following resolution was adopted, to wit: That the delegates of the said State Medical Association should be admitted to proper registration at this meeting of the American Medical Association; also that the protest of the local societies of Arkansas be referred to the State Society for adjudication.

The name of Dr. Sweeney, as a delegate from the State Medical Society of Kentucky, was rejected, for the simple reason that that State had already sent its full complement of delegates to this Association.

The following resolution in regard to delegates from the College of Physicians and Surgeons of Louisville was passed:

That the list of delegates appointed by the society known as the College of Physicians and Surgeons of Louisville, Ky., consisting of Drs. Turner Anderson, William Bailey, D. W. Yandell, Lewis Rogers, and G. W. Holland, are the lawful and proper delegates from that Society, and that the Committee of Arrangements should correct the registry of members for this meeting of the Association in conformity thereto.

Also, in reference to the Academy of Medicine of Louisville, that the action of the Committee of Arrangements, in declining to receive and register the names of all the delegates appointed by the society known as the Louisville Academy of Medicine, is approved as correct, simply because it is believed that the Association had already received from the State Medical Society of Kentucky, and the local societies in Louisville having a prior active existence, the full number of delegates to which the profession of Louisville are entitled under the present constitution of this Association.

Prof. E. M. Moore, of Rochester, N. Y., read an elaborate and able paper on the subject of "Transfusion."

Dr. W. H. Byford, of Chicago, read a paper on the subject of "Uterine Fibroids," which was referred to the Publishing Committee.

The following gentlemen were chosen trustees of the McDowell Memorial Fund:

Dr. W. L. Atlee, Philadelphia; Dr. W. H. Byford, Chicago; Dr. J. D. Jackson, Danville, Ky.; Dr. J. M. Keller, Louisville; Dr. J. Marion Sims, New York.

Dr. James R. Wood, chairman of the Nominating Committee, made the following report:

President—Dr. J. Marion Sims, of New York.

Vice-Presidents—First, Dr. John D. Jackson, of Kentucky; second, Dr. Samuel Lilly, of New Jersey; third, Dr. N. Pinkney, of United States Army; fourth, Dr. S. D. Seeley, of Alabama.

Treasurer—Dr. Casper Wister, of Pennsylvania.

Librarian—Dr. William Lee, of District of Columbia.

Committee on Library—Dr. Johnson Eliot, of District of Columbia.

Assistant Secretary—Dr. Richard J. Dunglison, of Pennsylvania.

Committee on Arrangements—Drs. William Pepper, Chairman; Frank Maury, Albert Fricke, A. Hewson, S. W. Gross, William Goodsell, and T. M. Drysdale.

Committee on Publication—Drs. F. G. Smith, T. M. Drysdale, Albert Fricke, and William B. Atkinson, all of Philadelphia.

OFFICERS OF SECTIONS.

Practice of Medicine, Materia Medica, and Physiology—Dr. F. G. Smith, Pennsylvania, Chairman; Dr. B. A. Vaughan, of Mississippi, Secretary.

Obstetrics and Diseases of Women—Dr. Samuel C. Busey, of District of Columbia, Chairman; Dr. R. Battey, of Georgia, Secretary.

Surgery and Anatomy—Dr. Alonzo Garcelon, of Maine, Chairman; Dr. E. T. Easley, of Texas, Secretary.

Medical Jurisprudence, Chemistry, and Physiology—Dr. E. L. Howard, of Maryland, Chairman; Dr. E. L. Hurlburt, of Illinois, Secretary.

State Medicine and Public Hygiene.—Dr. R. C. Kedzie, of Michigan, Chairman; Dr. Ezra M. Hunt, of New Jersey, Secretary.

The following were appointed representatives in this section from their respective States: J. B. Gaston, Alabama; D. A. Linthicum, Arkansas; T. M. Logan, Colorado; B. H. Cattlin, Connecticut; L. B. Bush, Delaware; F. Howard, District Columbia; W. A. Love, Georgia; H. A. Johnson, Illinois; George Sulton, Indiana; A. J. Fields, Iowa; D. G. Mottram, Kansas; Turner Anderson, Kentucky; S. M. Be-miss, Louisiana; S. H. Weeks, Maine; James A. Stuart, Maryland; H. J. Bowditch, Massachusetts; A. B. Stuart, Minnesota; W. H. Armistead, Mississippi; Frank G. Porter, Missouri; J. H. Peabody, Nebraska; J. W. Parsons, New Hampshire; E. M. Hunt, New Jersey; A. N. Bell, New York; T. J. Quinn, Ohio; H. Bettinger, Oregon; William F. Knox, Pennsylvania; E. M. Snow, Rhode Island; R. A. Kinlock, South Carolina; J. H. Vandiman, Tennessee; J. M. Fort, Texas; J. L. Caball, Virginia; A. T. Woodward, Vermont; H. P. Strong, Wisconsin; John Frissell, West Virginia; William A. B. Norcom, North Carolina; John S. Billings, U. S. Army; Joseph Wilson, U. S. Navy.

The following is the Committee on Necrology: S. O. Chinn, Maryland, Chairman; B. R. Jones, Alabama; A. H. Scott, Arkansas; Henry Gibbon, Jr., California; G. W. Russell, Connecticut; L. P. Bush, Delaware; W. W. Johnson, District of Columbia; A. J. Kirksey, Georgia; W. M. Chambers, Illinois; Thaddeus M. Stevens, Indiana; J. W. Baker, Iowa; D. W. Stormant, Kansas; L. P. Yandell, Sr., Kentucky; Alonzo Garcelon, Maine; A. Sayer, Michigan; A. W. Stinchfield, Minnesota; William M. Compton, Mississippi; A. J. Steele, Missouri; J. H. Peabody, Nebraska; J. H. Wheeler, New Hampshire; John Blain, New Jersey; W. H. Bailey, New York; George Mitchell, Ohio; W. C. Warriner, Oregon; Horatio C. Wood, Pennsylvania; C. W. Parsons, Rhode Island; A. N. Talley, South Carolina; John H. Callender, Tennessee; S. D. Thurston, Texas; Levin S. Jaynes, Virginia; R. W. Hazlett, West Virginia; N. M. Dobson, Wisconsin; J. J. Woodward, U. S. Army; S. F. Wilson, U. S. Navy; O. J. O'Heagan, North Carolina; J. R. Bronson, Massachusetts.

The terms of a portion of the Judicial Council expiring at this meeting, the following were appointed to take their places:

Dr. Louis S. Jaynes, of Virginia; Dr. R. N. Todd, of Indiana; Dr. Robert Battey, of Georgia; Dr. James E. Morgan, District of Columbia; Dr. Thomas B. Flaylor, of New Jersey; Dr. Silas N. Bertram, of Pennsylvania; Dr. A. Dunlap, of Ohio.

The following is the Committee on the Determination of Prize Essays:

Dr. Samuel D. Gross, Pennsylvania; Dr. F. G. Smith, Pennsylvania; Dr. Alford Stiltz, Pennsylvania; Dr. E. Wallace, Pennsylvania; Dr. H. C. Wood, Pennsylvania.

Dr. Franklin Staples, of Minnesota, was appointed to report on the influence of the Minnesota climate on pulmonary diseases; Dr. Charles Dennison, of Colorado, to report on the same in Colorado; and Dr. E. T. Sabal, of Florida, to report on the same in Florida.

Dr. Bowditch, of Boston, made some remarks on the advisability of establishing a National Council of Health, and offered the following:

Resolved, That each year, until otherwise ordered, the President-elect and the Permanent Secretary be directed to appeal, in the name of this Association, to the authorities of each State where no State Board of Health exists, urging them to establish such boards.

Resolved, That the Permanent Secretary is hereby directed annually to report the names of the States where Boards of Health exist, and also of those which decline to establish them; said report to form a part of the annual proceedings of the Association.

The Committee on Prize Essays was not prepared to report.

The chief of the United States Signal Service was requested, if it is within his power, to note in his daily weather reports, the quantity of ozone in the atmosphere in different sections of the country.

On motion of Dr. Westmorland, the Association unanimously adopted a resolution recommending to Congress that the salaries of the physicians of the army be increased.

On motion of Dr. N. S. Davis, the following resolution was adopted:

Resolved, That in the death of the late Dr. James McNaughton, of Albany, N. Y., we recognize the loss of one of the earliest, oldest, and most distinguished members of this Association; one who for more than half a century had been a noble example of the upright citizen, the untiring physician, the enthusiastic teacher, and the true Christian gentleman.

Resolved, That a copy of the foregoing resolution be communicated to the family of the deceased.

The Association adjourned, after the usual formalities, to meet in Philadelphia on the first Tuesday in June, 1876.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, April 26, 1875.

DR. H. B. SANDS, President.

Conium, and its Use in Diseases of the Eye.—Dr. EDWARD CURTIS read a valuable paper on conium, particularly in regard to its use in blepharospasm, giving, at the same time, its results upon himself. He said that its poisonous effects were understood in ancient times, but that it passed into disuse. Its use was revived one hundred years ago, but again passed into neglect. This was mainly due to the fact that from the volatility of its active principle much discrepancy occurred in the accounts of different observers. Conium belongs to a group of narcotics, which includes *Calabar bean*, *yellow jasmin*, and *curare*. In small doses, it exerts its paralytic effect on the terminal branches of the nerves distributed in the muscles, but in larger doses this effect extends to the anterior columns of the spinal cord. It has a special effect on the cranial nerves distributed to the eyeball. No effect is produced on the sensory nerves when administered internally, but, when applied to the terminal branches, as in cancer, it has the effect of controlling pain. Conium in moderate doses has no effect on the intellect. A very important question is, Does it affect the heart, causing paralysis, like curare? Experiments go to show that, when an animal is killed by conium, the heart still beats. The most common symptoms found, after taking an average dose of a reliable preparation of conium, are giddiness and nausea, with loss of power of muscles. The drug is quickly absorbed, and readily eliminated. Dr. Curtis said that he took thirty minims of Dr. Squibb's preparation, and in ten minutes began to feel its effect. In fifteen minutes it was at its height, and in another fifteen minutes it was gone. After an hour all trace of its effects had disappeared. When taken in larger amount, all trace of it vanished after three or four hours. Dr. Curtis at some length proposed to prove that the giddiness and nausea were the result of the paresis, and in this respect the effect was analogous to sea-sickness. The main point of interest of the paper was the consideration of its use in blepharospasm, and especially so from its poisonous effects upon a patient in Brooklyn. Blepharospasm is usually caused by inflammation of some portion of the eye, and in this way the third cranial nerve, as well as the portio dura, is involved; and, for relief, conium suggests itself as a remedy, from its well-known effect on the cranial nerves.

The first case on which Dr. Curtis used it was a patient aged twenty-three, and an inmate of the New York Eye and Ear Infirmary. He had received an injury of the eye, which was followed by conjunctivitis and iritis, accompanied by blepharospasm. Atropia had been applied with morphia internally, but after five days no effect had been produced on the iris. He was then ordered forty minims of Dr. Squibb's fluid-extract of conium, and in half an hour the spasm was relieved, and the patient passed into a quiet sleep, which lasted four hours ; on awaking, the pain and spasm reappeared. On the next day thirty minims were given, and after two hours the patient was relieved, and on this occasion the good effect was more constant. Atropine was again used, with the result of dilating the iris. Thirty minims were given on the following day, but without the benefit derived from the previous administration of the drug. Forty minims were ordered on the two succeeding days, with moderate benefit. The conium was then discontinued, and it was found that all the bad symptoms returned. It was again had recourse to, in forty-minim doses, but increased in three days to fifty and sixty minim doses. Iodide of potassium was then administered, as the patient was suspected of having a specific element in the case, and shortly afterward the patient got perfectly well. Some time later an operation was performed on the iris, when all of the bad symptoms returned. Conium was again had recourse to, with a result similar to that obtained previously. Dr. Pomeroy had a patient nine years of age with blepharospasm, and on the administration of ten drops of the preparation of conium the blepharospasm was so far relieved as to allow of the eye being opened in twenty-five minutes, and in forty minutes the disease was completely cured, and did not return. Dr. Loring gave it to a patient in two doses of thirty minims each. In an hour after the second dose the patient was very much relieved. It was then continued, in forty-minim doses, every day. Conium was again tried in the case of a young girl suffering from granular lids, but without any special effect. Lastly, it was taken by a patient in Brooklyn suffering from facial spasm, but without avail. This case was not one of simple blepharospasm, and therefore not a fair case to test its powers. Dr. Curtis said the subject of conium was brought up to prevent a prejudice being formed against the drug by the unfortunate death of the patient in Brooklyn.

Dr. E. R. Squibb said the conium-fruit is strongest in the alkaloid just before ripening; in this respect it is analogous to the poppy. When the plant is young it has no effect, and when it has attained its maturity it is by no means so potent as it is immediately before. Climate has a very important influence on it. In Russia it is used by the people as an article of diet, whereas in Italy it is a deadly poison. There is no special skill required in making the fluid-extract, beyond being careful in not using heat in its preparation beyond what is necessary to dry the fruit. The fruit itself does not deteriorate to any great extent if it is kept dry, but, as with ergot, moisture has a bad effect on it.

There was a valuable preparation to be obtained some years ago, which was manufactured at New Haven. It was a sun-dried extract, containing enough of alcohol to keep it. Latterly it has lost its reputation, from the fact that with the increasing demand the proper care has not been taken in its manufacture.

There are other valuable uses to which conium might be applied. It has a quieting influence on the respiratory mucous membrane, and for this reason can be used with great advantage in senile bronchitis. As a local application in cancer it is exceedingly beneficial in quieting the pain. In cases where it has failed to prove of service the cause in all probability has been due to a bad preparation.

The manner of applying it is to soak a rag in the fluid-extract and hold it up till the alcohol has evaporated, then apply it to the sore.

Dr. AGNEW said the patient in Brooklyn, upon whom conium proved fatal, was suffering from blepharo-facial spasm. Ten years ago the disease first appeared, with double vision, and slight spasm of the orbicularis muscle. After eight or nine years he received an injury of the orbit of the left eye, and from that time he developed blepharo-facial spasm. Eighteen months ago he consulted Dr. Brown-Séquard, who, after using counter-irritants, the bromides, opium, strychnia, and Calabar bean, removed the supra-orbital and supra-trochlear nerves, but without any good effect. Dr. Agnew obtained a transient benefit from canthoplasty. He then tried the fluid-extract of the conium-leaves, administering one hundred and twenty drops within three hours, but without any benefit. Later in the day the patient used Dr. Squibb's preparation, and, as was recorded in the papers, died from the effects of it. The cause of the disease in the beginning was centric, but after some months conjunctivitis developed as a secondary affection.

Dr. MANLIUS SMITH related the case of a patient who took half an ounce of the fluid-extract at 9 P. M. At 11 P. M. he was speechless. One-twelfth of a grain of strychnia was given hypodermically, and in ten minutes he opened his eyes. After twelve hours all effect of the conium had disappeared. The stomach had been evacuated by an emetic of mustard. Dr. Smith mentioned the case to show the efficacy of strychnia in counteracting the influence of conia.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 6, 1875.

Dr. S. PURPLE, President.

The Pathology and Etiology of Pulmonary Phthisis in relation to its Prevention and Early Treatment.—THE discussion was opened by Dr. LEAMING, who gave an abstract of Dr. Hudson's paper on the above subject, read at a previous meeting.

In response to a call from the chair, Dr. W. H. Draper said that phthisis in its early stages was one of the most unsatisfactory diseases that we had to deal with. The recent pathological views were only of indirect benefit in guiding us. Laennec held that phthisis was always tuberculosis; but Dr. Addison, in 1846, declared that inflammation was the object of destruction in every form of phthisis, and at that time his views were coincided with by some of the French pathologists. If phthisis, said Dr. Draper, is inflammatory in its nature, rest is and must be one of the most important ends to attain in its treatment, and any action, exercise, or any thing which tends to increase the pulmonary circulation, of necessity is contraindicated. Dr. Roberts, of London, and Dr. McCree, of Belfast, have followed this out with good results in strapping the chest, and thus keeping it to a great extent in a quiescent state.

Those who ignore the element of inflammation in the disease, consider rest prejudicial. In respect to climatic influence, there can be but little advantage gained beyond securing a temperature sufficiently equable to allow the patient to live out-of-doors a great part of the time. Patients, however, frequently derive more benefit from a residence in the Northwest than they do from more southerly latitudes. Phthisis as a disease is most common in the tropics, and decreases in frequency toward the extreme north or the extreme south. Elevated regions have also a beneficial effect, and in mountainous sections phthisis is relatively unknown. In the tropics, from 8,500 feet to 9,500 feet is the necessary altitude; and in temperate climates from 3,000 to 5,000 feet. It would appear as if the atmosphere at these elevations had a curative effect. Dr. Buchanan, of London, and Dr. Bowditch, of Boston, independently of each other, have proved that a moist soil has a decided effect in increasing the amount of phthisis.

Dr. John C. Peters did not think that phthisis should be considered as an inflammation, though it might provoke it. He was strongly convinced of its dyscratic nature.

Dr. Sullivan was of the opinion that the subject of defective ventilation had a most important bearing on the production of phthisis, and brought forward different facts to substantiate his views.

Dr. Willard Parker coincided in the views of Dr. Sullivan in respect to ventilation, and thought deficient sunlight also a most important factor to consider in reference to the etiology of the disease.

He was strongly opposed to the plan of rest for consumptives in the beginning of the disease. The cases that do best are those that spend most of their time in out-of-door exercise. He cited different cases in which the disease had made decided progress, and which were thoroughly cured by a life of activity out-of-doors.

Dr. Hubbard said that the same climate did not suit all patients: some patients do exceedingly well in Santa Barbara, where the thermometer does not vary more than ten degrees the year round; while others, who are not benefited there, improve by moving sixty or seventy miles inland.

Report of Committee on Ways and Means.—Dr. Anderson, chairman of the Committee on Ways and Means, reported that the house No. 12 West Thirty-first Street had been purchased, and formal possession taken of it on May 1st: $42,500 had been paid for it, $32,500 in cash, $10,000 remaining on bond and mortgage. It was proposed that the first reunion be held in it on May 20th, two weeks from date. During the summer recess the requisite changes were intended to be made, to adapt it to the purposes of the Academy. Dr. Joel Foster moved a resolution, which was carried, that the Academy assume the responsibility of the action of the committee.—Dr. Leaming read a brief obituary of Dr. Alexander Elder, a former member of the Academy, and moved appropriate resolutions, which were carried.

MEDICAL LIBRARY AND JOURNAL ASSOCIATION.

Stated Meeting, *April* 16, 1875.

Dr. E. R. Peaslee, President.

On Some of the Elements of Diagnosis in the Different Stages of Diseases of Hip-Joint.—Dr. C. F. Taylor, after alluding to the value of an early and correct diagnosis in hip-joint disease, stated that the symptoms generally relied on for diagnosis are of no avail in the earlier stages of the disease. He referred particularly to pain as a symptom. In some cases it does not exist, and, when it does exist to a marked extent, it is not an index of the amount of injury in the joint, unless accompanied by other and more important signs. The two most common causes of pain are, first, over-distention of the capsule of the joint; and second, insufficiency of the muscular contraction to prevent motion of the head of the bone. If the muscles around the joint are rigid to a degree sufficient to keep the joint at rest, pain may not be complained of, and, if in this condition extension be made, pain may develop and pass away under continued extension. Dr. Taylor referred to the case of a child which came under his observation, in which precisely this condition was found.

The most important sign of disease is tonic muscular spasm in the muscles around the joint. In some cases this may lead to the opinion that there is anchylosis of the joint.

The variableness of the symptoms is almost characteristic of the disease. A child affected with disease of the joint may be lame for a time, and afterward recover completely as far as external manifestations are concerned, but in the course of time all the former symptoms may reappear. But, were the joint closely examined, there would be noticed tension of the muscles and diminished motion in the joint. In some cases there may be acute suffering, followed by sudden relief. This can only be regarded as a sign of the disease passing so far as to cause rupture of the capsule, and consequent lessening of the pressure. After a period varying from three to nine months, an abscess may be looked for, as a rule. Disease of the lumbar vertebræ may cause contraction of the psoas muscle and flexion of the leg, but this cannot readily be mistaken for tension of all of the muscles around the joint. Again, in spinal disease there is a straightening of the lumbar vertebræ, whereas, in morbus coxarius, there is a forward curve in the lumbar spine. But little reliance can be placed on flattening of the nates and divergence of the vertical line between the buttocks. Both may occur in either spinal or joint disease, and may be wanting in joint-disease.

In regard to the so-called hysterical joint, it is liable to be confounded with the earlier stages of hip-joint disease. There is likely to be excessive sensibility to the first contact of the hand, rather than to motion after the limb is fairly grasped. There is also a lack of definiteness in regard to the amount of pain and its location, but the symptom upon which the diagnosis must rest is the amount of muscular contraction independent of the will, and this can only be discovered by diverting the patient's attention while making the examination. The most puzzling complication is where there is commencing disease attended with hysterical symptoms.

Stated Meeting, May 7, 1875.

Dr. E. R. Peaslee, President.

Presentation of Patients with Different Stages of Hip-Disease. Dr. C. F. Taylor.—Dr. Taylor presented a large number of cases, mostly children, showing the effects of treatment. In some of them the cure had been so complete that it was nearly impossible to tell which joint was affected; others wore some of the different varieties of apparatus, but in all of them walking was accomplished without difficulty.

The most important point in connection with this matter is, that Dr. Taylor has never performed excision of the joint, and rarely tenotomy, relying altogether upon mechanical support to combat the disease. Abscesses are of frequent occurrence, and occasionally necrosed bone comes away, and yet the patient may eventually have the benefit of a good joint. The apparatus that was exhibited consisted of two principal varieties. First, a straight splint extending from the pelvis to the ground, by which extension is made at the ankle, and counter-extension at the pelvis by means of perineal bands. The second splint is somewhat similar in its construction and mode of appliance, but is so adapted as to have a joint corresponding to the knee, by which the patient is enabled to enjoy motion at the knee in walking and sitting down. This latter apparatus with the movable joint is adapted to cases where the cure is progressing. The whole principle of the treatment of the disease consists in carrying the extension sufficiently far to cause complete relaxation of the muscles around the hip-joint. In some cases sufficient extension cannot be made with the instrument without injuring the tissues, and in those cases it is necessary to supplement it by means of the weight and pulley—sufficient weight being attached to the end of the apparatus till the desired result is obtained. Usually the muscles are relaxed in six weeks, but the instrument should be worn till after all trace of the disease has disappeared, in order to guard against relapses which frequently develop. When the extension instrument is applied to a patient, the extremity of it rests on the ground, and thus prevents the foot from sustaining any weight in walking. In children and young persons this is kept up till by degrees, from the natural growth of the limb, the foot reaches the ground and gradually learns to sustain the weight of the body.

Stated Meeting, April 23, 1875.

Dr. E. L. Peaslee, President.

Opium-Poisoning.—Dr. Andrew H. Smith read an exceedingly interesting paper on poisoning by opium and its treatment. He brought out strongly the fact that the number of the respirations is not always an index of the amount of narcosis, and gave an idea as to what extent belladonna might serve as a physiological antidote. The substance of the paper was as follows: In poisonous doses of opium the stage of excitement is usually limited to a short time, if not entirely wanting, and to it succeed dizziness, nausea, and sometimes vomiting. The face is at first dusky, but by degrees becomes pale. The pulse at first is bounding, but in a short time sinks below the normal rate. Convulsions may occur, but they are most likely to do so in children. The intellect is completely in abeyance, though it is usually possible to arouse the patient till the coma is profound. Delirium occasionally manifests itself, though it is not characteristic, as in poisoning by belladonna. The narcotic influence is exerted, partly by pressure on the brain from paralysis of the vaso-motor nerves, and partly by the direct influence of the drug on the cells of the brain. The effect of opium in contracting the pupils is due to its central action on the nerve supplying the pupil, and in this respect it differs from belladonna. Belladonna acts on the periphery of the nerves, as proved by applying atropine to the eye. Morphine applied in a similar manner has no action whatever.

It has been supposed that the respirations were a criterion of danger, but latterly evidence has been accumulating which proves that they cannot be relied on, as is evident from the cases reported. When death approaches, the temperature falls; and the pulse, which earlier was increased in frequency, decreases. If the patient suffers from peritonitis, the pulse sinks below what it was before the opiate was administered, but does not do so in proportion to the respirations. There is no specific lesion in opium-poisoning. Congestion of the brain is usually found, and sometimes there occurs hyperæmia of the mucous membrane of the stomach; but when this latter condition is found it can be attributed to the alcohol in the laudanum. The diagnosis rests mainly between apoplexy, depressed fracture of the skull, uræmia, and poisoning by alcohol. In apoplexy, there are hemiplegia, pulsation of the carotids, and inability to rouse the patient from the coma. The same is true of depressed fracture, with the additional fact of injury found on examination of the head. In alcohol-poisoning, the patient, when aroused, manifests anger, and in the breath there is the alcoholic odor. This may, however, and does frequently, complicate poisoning by opium. In uræmia, the urine is the main reliance for diagnosis, but in this and the other cases there is not the contraction of the pupils which, in poisoning by opium, continues till near the close of life. The treatment of opium-poisoning resolves itself into the evacuation of the stomach, the administration of belladonna, and such stimulants as coffee; keeping up some irritation, such as walking, the faradic current, and the cold douche, and careful attention to respiration to prevent its flagging. The administration of oxygen gas has proved a most valuable aid in this latter respect. It seems, moreover, to have a more extended influence than would at first be supposed; and this is caused, in all probability, by accelerating capillary circulation, and possibly by aiding in the destructive assimilation of the poison. In regard to the evacuation of the stomach, if the patient is seen early, mustard, sulphate of zinc, or sulphate of copper, may be given to cause vomiting; but if this fails to act soon, or if it has been some time since the taking of the drug, the stomach-pump must be used. The emetics may be increased in their efficacy by kneading the epigastrium from time to time. Belladonna has long been supposed to have an action antagonistic to opium, from its effect on the pupil, but much obscurity attends its use: 1. From the amount required to act as an antidote; and, 2. From the lack of knowledge of the amount of opium taken into the system. It is now known that belladonna, up to a certain point, has an effect antagonistic to the opium: the respirations are quickened, and the circulation is increased. Beyond this point it deserts us, and goes over to the enemy, increasing the prostration and complicating the case. It is safe to give from $\frac{1}{30}$ to $\frac{1}{40}$ of a grain of atropia hypodermically, and supplement it by the administration of a strong infusion of coffee. A dose of atropia larger than this is given with risk, as it is impossible to tell not only how much of the opiate has been taken, but also how much of it is absorbed and exercising its influence. The patient should be kept continuously irritated, either by walking, or, if quite unable to walk, by the faradic current. Pain exerts a protective influence on the system, and in cases of spasmodic pain, where opiates have been given, it is occasionally found that during the continuance of the pain but slight influence of the anodyne is detected, whereas, when the spasm ceases, dangerous narcotism may and often does supervene. The dangerous sequelæ of opium-poisoning, when recovery is being established, are, first, a relapse; and, secondly, pneumonia. The pneumonia is probably caused by the state of the blood in the lungs. It has been supposed that the respirations are an index of danger after the administration of opium, but, though this is true as a rule, it is becoming known now that there are many exceptions to it, and that great danger may be impending when the respirations are either normal or above the normal rate.

The first case that I have notes on, was a patient suffering from puerperal peritonitis. When seen, she was in a profoundly comatose state, cyanosed, but the respirations averaged about eighteen during the minute. Under the use of oxygen gas the patient soon rallied, but died eventually of pneumonia.

The second case was in a patient aged forty. Magendie's solution was administered every two hours, in ten-minim doses; after eight or ten hours the respirations sank to ten per minute, then rose to fifteen, and again dropped to twelve, and then ten; afterward they rose to twenty-two per minute. The patient at that time was cyanosed, and in a state of coma; oxygen gas was administered, and soon afterward the patient passed out of the narcosis.

The third case was communicated to me by Dr. J. J. Reid. It occurred during his service at Bellevue Hospital. The patient was taken into the hospital ward suffering from narcosis; the respirations were about five or six per minute, and the coma profound. The cold douche was used, and the respirations rose to eighteen or twenty per minute, and continued so for three or four hours, when the patient died.

The next case showed the good effect of oxygen gas: the respirations were five in three minutes, but no difficulty was found in arousing the patient; after the administration of the gas he rapidly recovered.

The fifth case occurred at St. Luke's Hospital. The patient was found in a comatose state in Central Park, with a respiration averaging one in two minutes; after two hours, oxygen gas was given, and in three or four hours he had recovered from the narcosis. He took the drug twelve hours before being discovered.

The sixth case was very much improved by oxygen gas, but afterward developed pneumonia and died.

The seventh case had increased respiration, and died from the narcosis.

The oxygen gas given in the above cases proved more beneficial than any other agent used in rousing the patient from the lethargy. The method of administration was to fill a rubber bag with the gas, and then introduce the inhaler into one nostril, leaving the other free to receive atmospheric air.

Dr. BAYLIS read a case of opium-poisoning which was of interest from the large amount of the narcotic taken. During a period of three and a half hours the patient took five grains of morphia, and six hours after he took the last dose of morphia narcosis set in. In this man there was pulsation of the carotids, a rare symptom in opium-poisoning.

The respirations numbered two per minute. Sulphate of atropia was given in one-fortieth-grain doses, hypodermically, and in forty-five minutes the pupils began to dilate; at the expiration of an hour and a quarter this dilatation was complete. Oxygen gas was administered, and in eighteen hours the patient had recovered. Dr. Baylis noted as strange that, when the patient rallied from the coma, there was perversion of the intellect, but this was explained by Dr. Smith to be due to the atropia administered. Dr. JOEL FOSTER related a case where twenty-five grains of morphia were taken by an officer in the Navy, and the patient afterward recovered.

Dr. PEASLEE narrated the case of a young woman who took about thirty grains of morphia, and afterward recovered completely.

Dr. SMITH, during the reading of his paper, paid a deserved tribute to Dr. MARY PUTNAM JACOBI, who anticipated the observations, in regard to the effects which belladonna exercises in the system upon opium, made by a commission appointed recently in England.

Bibliographical and Literary Notes.

ART. I.—*Lectures on Diseases of the Respiratory Organs, Heart, and Kidneys.* By ALFRED L. LOOMIS, M. D., Professor of Pathology and Practical Medicine in the Medical Department of the University of New York, Visiting Physician to Bellevue Hospital, etc., etc. New York: William Wood & Co., 1875.

THE numerous alumni of the Medical Department of the University of the City of New York, and the profession at large, will be glad to see this volume of lectures, which is published, with slight alterations, as delivered in the regular college course. Those who have not had the privilege of listening to Prof. Loomis will find in the published lectures ample reason to account for his popularity as a teacher. He has a happy faculty of grouping the prominent characteristics of a given disease, and presenting them in such a way that the student can hardly fail to remember the most important points in diagnosis, pathology, and treatment.

Beginning with the larnyx, the author takes up successively the various forms of pulmonary disease, diseases of the heart, and diseases of the kidneys.

Dr. Loomis avoids as far as possible the discussion of merely theoretical points, in which there may be room for various opinions, but he does not hesitate to express his own views as determined by clinical experience. Regarding the etiology of pulmonary phthisis, he differs from Dr. Flint as to the importance of bronchitis, which he places first among the local causes of that disease. He says: "The development of phthisis from attacks of bronchitis is a fact long known, but not until recently fully established. It has been claimed that the bronchitis was secondary, and not the cause of phthisical developments. In our study of the morbid anatomy of this disease it would seem that you must have been convinced that the contrary of this statement was true, and that bronchitis gives rise to a large proportion of the anatomical changes of the disease." Flint says of acute bronchitis (p. 204), "It rarely precedes the development of pulmonary tuberculosis." Dr. Loomis gives pneumonia also a prominent place in the causation of phthisis. "Clinical experience," he says, "establishes the fact that a large proportion of cases of catarrhal and fibrous phthisis begin with a naso-pharyngeal catarrh, which gradually extends to the larger bronchi, and then to the bronchioles, and, as has already been shown, finally develops pneumonia, which leads to phthisical developments." Flint says (p. 186): "It is certainly rare for tuberculous disease to become developed as a sequel of pneumonitis. When phthisis follows, the deposit of tubercle probably existed prior to the pneumonitis."

In the treatment of phthisis Dr. Loomis lays much stress on the value of quinine as a means of controlling the fever. He advises giving about twenty grains daily, in one or two doses, the quantity being diminished as the temperature falls. The use of alcohol is not recommended in the early stages of the disease, nor in any stage without special indications. "The idea that alcohol has the power of arresting phthisical developments is one which experience does not sustain." Again, "If an individual with developed phthisis reaches complete recovery while taking alcoholic stimulants freely, I am confident that he would have reached it more rapidly and safely without their use." We have quoted enough to show that the author has positive opinions, and expresses them in unmistakable language. Six lectures are devoted to the subject of pulmonary phthisis, two being occupied with the treatment alone. We do not think the profession generally will quite agree with the author in regard to the value of large doses of quinine in pneumonia or in phthisis; but we notice that Prof. Jürgensen, in Ziemssen's "Cyclopædia," recommends it in doses of seventy-five grains in severe cases. In the latter disease it is usual to give less quinine and more alcohol. In acute catarrhal pneumonia, the author says, "From ten to twenty grains (of quinine) may be administered daily to a child three years of age." Our experience with quinine in pneumonia has not been so favorable as that of Dr. Loomis.

The lectures on diseases of the heart and kidneys are full and clear. The judicious employment of a few illustrations would have enhanced the value of certain chapters, but they are not absolutely necessary.

We regret that our space does not permit us to give a fuller analysis of the work, but we have no hesitation in pronouncing it one of much value to the profession, and highly creditable to the author.

Typographically the volume is one of the handsomest that the publishers have yet issued.

Art. II.—*Transactions of the New York Odontological Society.* Special Meeting, December, 1874. Pp. 169.

This book shows a very marked improvement in the specialty to which it is devoted; indeed, we rarely find such an amount of careful and laborious research, made after scientific methods too, coming out in the proceedings of any society of medical specialists.

The application of galvanism as a power in dental operations, with exhibitions of appliances, occupied the first evening.

An examination into the physical properties of the various amalgams so largely used by dentists in filling badly-decayed teeth came up in the next session, in connection with the question whether pathological conditions are ever induced by them; and the results of a great number of experiments undertaken with a view to answering this question, and extending through several months, were given in detail.

Analyses of all the most frequently-used amalgams had been made, and their component parts were given.

This is a subject of interest to the medical profession generally, and we are glad to see that an investigation of it has been begun, and the methods and results of that investigation made public.

Next follows a paper on metallurgy as applied to dental art, dealing more particularly with gold, but expressing this remarkable opinion, that "all metals are welding metals, whether cold or hot, if the particles come in contact."

This paper shows how dental gold is affected by the gases that often pervade even the atmosphere of our living-rooms.

An inquiry into the causes of irregularity in the development of the teeth next follows, calling up the question as to whether there is any connection between dental and mental development, or, in other words, whether irregularity of the teeth of a peculiar kind can be relied upon as a diagnostic symptom of idiocy.

The subject of a higher professional training for dentists was warmly discussed, the general opinion of the better members of the profession being that the dental student should graduate in medicine before taking up his special studies.

Altogether, as before stated, the results of this meeting show a rapid growth and increasing importance in the dental specialty, and it may be hoped that the time is not far distant when the best aspirations of dental educators may be realized, in that every man aspiring to be a dental surgeon shall first become acquainted with the principles of medicine and surgery that must underlie an intelligent practice of the dental art.

ART. III.—*On the Psoriasis or Lepra.* By GEORGE GASKOIN, Surgeon to the British Hospital for Diseases of the Skin. Pp. 206. London: J. & A. Churchill, 1875.

THE author has written this work because he believed his views differed on many points from those commonly entertained on the subject. We will, therefore, only notice those points on which he differs from others, and see what he has added to our knowledge of the subject. Psoriasis he believes is closely related in nature with pityriasis, ichthyosis, and acne rosacea, any of which may appear as a substitute for the other. They differ principally in that each has its special seat, psoriasis alone appearing on the palms of the hands, or on the knees and elbows. Now, ordinary pityriasis has no relation, clinical or histological, with psoriasis; but is simply a form of eczema in which the amount of exudation is slight. We also differ from Mr. Gaskoin when he states that ichthyosis is not found on the knees and elbows. These are exactly the localities where a limited ichthyosis is likely to be found, and we have seen this disease also on the palms of the hands. Now, specific psoriasis palmaris he thinks forms a large proportion of the cases of palmar psoriasis that come before us. He evidently confounds simple psoriasis, specific psoriasis, and eczema of the hands, with each other, or he could not come to such a conclusion. Non-specific psoriasis, confined to the palms of the hands, if it ever occurs, is certainly exceedingly rare.

The principal causes of psoriasis he finds to be direct hereditary descent, chest-complaints, and arthritic affections. The children of men affected with epithelioma he finds liable to psoriasis; and if a mother has psoriasis her child will probably have eczema. We know as yet nothing of the causes of psoriasis, and Mr. Gaskoin has also failed to substantiate his views by the cases he records. Without altogether denying an hereditary element in the causation, we generally find the parents and other members of the family of psoriatic patients possessing ordinary health, and often even enjoying an apparent immunity from skin-diseases. The author is not more fortunate in the view that gonorrhœa has a special influence in the production of psoriasis, else the latter would surely be a more frequent disease in some countries, gonorrhœa forming, as it does, a part of the previous or present history of the majority of any class of patients. The proof would require, therefore, to be much clearer upon this point than any we have seen, before we could accept gonorrhœa as the cause of any special skin-disease. We hope Mr. Gaskoin will pursue the subject of psoriasis further, and assist to throw some light on the subject. His present effort does not aid us much.

ART. IV.—*Dental Pathology and Surgery.* By Dr. JAMES A. SALTER, M. B., F. R. S. William Wood & Co.

THE above volume, as its author states in his preface, is a digested collection of all his previous essays and papers, arranged in the form of chapters. Though not quite up to the latest modes of practice in some of the lesions of which it treats, it is a very creditable addition to dental literature. Very few authors have enjoyed greater advantages for obtaining correct information bearing upon these topics than has Mr. Salter; and, up to the time that the essays and papers of which this volume is composed were written, the information given is very complete. This work is especially valuable for its clear and intelligible descriptions of the different pathological conditions. On disputed questions they partake somewhat of the peculiar views of the author, but they are evidently those of an experienced practitioner—a man of enlightened judgment—whose opinion is entitled to consideration, however much it may vary from that of others.

On the whole, we commend the book with much satisfaction, and think it should be in the hands of every dentist, and of every physician of whose practice dentistry forms a part.

ART. V.—*Clinical Lectures on Diseases peculiar to Women.* By LOMBE ATHILL, M. D., University of Dublin, President of the Dublin Obstetrical Society, and Obstetric Physician to the Adelaide Hospital, Dublin. Third edition, revised and enlarged. Dublin: Fannin & Co., 1875.

IN noticing the second edition of this work we objected to the dangerous severity of some of the methods of treatment recommended. The same remarks will apply with equal propriety to the present edition. Later experience and observation would lead us to condemn even more emphatically the freedom with which the author advises the application of the more powerful caustics, as the solid nitrate of silver, and strong nitric acid, to the cavity of the uterus. "Some practitioners," Dr. Athill says, "have still a great dread of applying powerful caustics to the interior of the uterus—a fear which is totally groundless." We believe, on the contrary, there is the best possible ground for such a fear.

Under the head of "Chronic Inflammation of the Cervix," the author describes a condition that commonly results from *laceration* of the cervix; and he recommends the use, after milder measures, of *potassa fusa*, or the actual cautery, in the form of ignited charcoal pencils, for its cure. That the simple operation for the closure of a lacerated cervix is not practised by the author, we infer from his remark (page 60) that he has allowed one of his patients to suffer more than ten years from "such great eversion of the lips of the womb as to leave the neck patulous and gaping to an excessive degree." This was the result of a too free division, by Dr. Athill, of a contracted os, and is cited as a warning.

The author underrates the danger of using stem-pessaries, and seems to have had an exceptionally fortunate experience in all the most heroic methods of treatment known to gynæcologists.

The chapters on the "Physical and Instrumental Examination of the Uterus" are very defective; those on "Cancer," on "Ovarian Disease," and on "Uterine Therapeutics," are the most valuable and suggestive; but on the whole we think the work an unsafe guide for the young practitioner, though it contains much that is of interest to those whose larger experience will enable them to separate the wheat from the chaff.

Art. VI.—*A Practical Treatise upon Eczema, including its Lichenous and Impetiginous Forms.* By Dr. M'Call Anderson, Professor of Clinical Medicine in the University of Glasgow, etc. Third edition, with Illustrations. Philadelphia: Lindsay & Blakiston, 1875.

The third edition of this treatise appears to have been added to, rather than revised, the author having availed himself of the latest researches of German authorities to render his work the more complete. We notice also many additional formulæ, and in some instances more explicit directions in regard to treatment. The volume is now an excellent guide to the diagnosis and treatment of eczema as the disease is understood and treated by Dr. Anderson. Several illustrations are introduced in the present edition.

Art. VII.—*A Medical Vocabulary, being an Explanation of all Terms and Phrases used in the Various Departments of Medical Science and Practice, giving their Derivation, Meaning, Application, and Pronunciation. Intended specially as a Book of Reference for the Student.* By R. G. Mayne, M. D., LL. D., etc., and J. Mayne, M. D., L. R. C. S., Edinburgh, etc. Fourth edition, revised and enlarged. Philadelphia: Lindsay & Blakiston, 1875.

This is one of the best of the small medical dictionaries, and though it will not take the place of Dunglison's, or other large dictionaries, for the practitioner, it will be found very useful by students, both on account of its small size, and its fullness and accuracy in regard to the derivations of words. The present edition has been carefully revised and considerably enlarged.

Books and Pamphlets Received.—The Present Status of Electricity in Medicine, being the Semi-Annual Address before the Rhode Island Medical Society. By William F. Hutchinson, M. D. Providence, 1875.

The History of the Philadelphia School of Anatomy, and its Relations to Medical Teaching. A Lecture delivered March 1, 1875, at its Dissolution. By William W. Keen, M. D.

Transactions of the Medical Society of the District of Columbia, April, 1875.

On the Means employed at the Preston Retreat, for the Prevention and Treatment of Puerperal Diseases. By William Godell, M. D., Physician in Charge. Reprinted from the *Obstetrical Journal* of Great Britain and Ireland, for July and August, 1874.

Fourth Annual Report of the Dispensary for Sick Children, 406 East Fifteenth Street. For the Year ending March 31, 1875.

Case of Intra-Laryngeal Tumor. By Beverly Robinson, M. D. Reprinted from the *American Journal of the Medical Sciences*, for April, 1875.

Contribution à l'Étude des Tumeurs du Testicule. Avec deux Planches Chromo-lithographiées. Par le Dr. G. Nepvue. Paris, 1875.

Medical Society of Washington Territory. Third Annual Proceedings, 1874.

Manual of Comparative Anatomy and Physiology. By S. Messenger Bradley, F. R. C. S., Senior Assistant Surgeon, Manchester Royal Infirmary. Third edition. Philadelphia: Lindsay & Blakiston, 1875.

Braithwaite's Retrospect of Medicine. Vol. lxx. July to December, 1874. London: Simpkin, Marshall & Co.

A Manual of Diet in Health and Disease. By Thomas King Chambers, M. D., Oxon., F. R. C. P., London, etc., etc. Philadelphia: Henry C. Lea, 1875.

A Practical Description of every Form of Medico-Electric Apparatus in Modern Use, with Plain Directions for Mounting, Charging, and Working. Illustrated by carefully-drawn Engravings, and intended to serve as a Guide to Medical Men in the Selection of their Instruments, and as a Handy Book of Reference to all Mechanical Details connected therewith. By Salt & Son, Anatomical Mechanicians to H. R. H. the Prince of Wales. London: J. & A. Churchill, 1875.

Reports on the Progress of Medicine.

SURGERY.

PREPARED BY SAMUEL B. WARD, M. D.

Modification of the Operation for Cleft Palate.—In a clinical lecture by Mr. Francis Mason, of St. Thomas's Hospital, published in the London *Lancet* for January, that gentleman mentions a little device by which Sir William Fergusson's manner of performing Dieffenbach's operation for closing a fissure of the hard palate is made easier of execution. He first makes, with a gimlet, at a suitable distance from the border of the fissure, the necessary number of holes for the passage of the sutures. He then, with the same instrument, bores a number of holes quite near to each other, in the lines where the chisel is to divide the hard palate, and so facilitates the action of the last-named instrument. This last manœuvre constitutes the improvement, and insures separation taking place in precisely the desired line, just as the perforation of a sheet of postage-stamps does.

Pyæmia.—Dr. W. Moxon, in a clinical lecture on this subject, draws the same line as the German pathologists between this disease and septicæmia, and admits that in *some cases* the abscesses are due to embolism, as is generally taught. He then points out the fact that, in other cases, abscesses are found in the liver and other viscera, and also in the integument, muscles, and joints, while none are found in the lungs, though the blood from the vicinity of any wound must pass through the pulmonary circulation before reëntering the systemic. "And one knows no reason why matters which have passed the pulmonary should stick in the hepatic capillaries." Lastly, the speaker was certain that he had seen some cases of pyæmia of the most characteristic kind without any sore whatever, in many of which the disease was clearly traceable to the contagion of fevers —such as scarlatina and diphtheria—illustrated especially in the pyæmia of the puerperal state.

The doctor thinks, therefore, that we may divide pyæmia into three distinct varieties—simple embolism, purulent absorption, and general fever due to contagion; "but in many cases, perhaps the majority, all these conditions exist together."—*London Lancet, January*, 1875.

Injury to the Spine; Temperature of 125°*; Recovery.*—At a recent meeting of the Clinical Society of London, Mr. J. W. Teale reported the case of an unmarried lady, who fell with a horse while attempting to jump a gate, thereby sustaining a fracture of the fifth and sixth left ribs at about their middle, and an injury to the spine. For some days there was fever, but at the end of a fortnight the temperature was normal. The ribs united readily, but pain and tenderness persisted over the spine, especially at the sixth dorsal vertebra. The lesion was supposed to be inflammation of the spinal ligaments and intervertebral substances, and possibly of the membranes of the cord; but the cord itself was not supposed to be primarily affected, except by pressure of the neighboring inflamed parts, as there was no paralysis of sensation or motion about the legs or sphincters. The accident occurred on September 5, 1874. Up to November 1st, the temperature never exceeded 101°; but on that day began to rise gradually, until it reached, on the 7th, 107°. The respirations were unaffected, and the pulse did not exceed 100. On November 8th the temperature was 108°; on the 11th, 12th, and 13th, respectively, it was 111°, 113°, and

114° ; while on the 14th it was at least 125°, that being the most that the thermometer would register. Five times between that date and December 1st the same extraordinary temperature was reached. During December the temperature never fell below 108°; but early in January, 1875, it began to go down, on the 7th was 104°, and on the 10th, normal. For seven weeks the temperature never fell below 108°, and rarely below 110°. Seven different thermometers were used at various times, four of which were afterward verified at Kew, and the certificates of their accuracy exhibited at the meeting. The observations were made in the axillæ, between the thighs, and in the rectum, and only differed from each other a few tenths of a degree. The instruments were inspected by two or three trustworthy witnesses before and after each application, and the results were always immediately recorded in writing; in short, every possible source of error seems to have been avoided.

In the discussion which followed, Dr. Farquharson alluded to a case of dislocation of the first dorsal vertebra, and injury to the cord, in which the temperature fell to 82°.

Mr. Hutchinson had seen a case of injury to the cervical spine, with paraplegia, survive until the fifth day, with a temperature never above 94.5°.

Mr. Pridgin Teale had seen the case first reported, in consultation, had measured the temperature when it was 110° and 114°, and thought it clear that we must give up the idea that temperature *per se* was an element of high danger.

Mr. J. W. Teale, in reply to a question, said that the pulse of his patient never exceeded 120, and was usually between 90 and 100. The respirations were never any thing but normal, though sometimes excessively feeble.—*Medical Times and Gazette*, *March* 20, 1875.

Fracture of the Base of the Skull, with Watery Discharge from the Ear.—Three more cases of this character are placed on record, all of them terminating in recovery, and in all of which it is at least extremely probable that the discharge consisted of the cerebro-spinal fluid. This symptom was formerly looked upon as a necessarily fatal one, and certainly proves that fracture of the petrous bone exists with rupture of the meninges of the brain. Enough cases are now on record, however, to show that where there is no injury, or only a slight one, to the brain itself, a fair proportion of the cases recover. Moreover, careful dissections, by Prescott Hewitt and Henry Gray, show that large quantities of clear fluid may be discharged from the external ear, without fracture of the base of the skull, or rupture of the meninges, the fluid in that case not being the cerebro-spinal, and not having its chemical constitution.

Operations about the Jaws.—In a brief consideration of the relative values of Rose's and Trendelenberg's methods, in operations about the jaws, both being employed to prevent the entrance of blood into the trachea, several points are brought out by Mr. Bellamy, in the London *Medical Record*, of February 17, 1875.

Trendelenberg's method consists in the operation of tracheotomy as a preparatory step, and then the introduction of a tracheotomy-tube surrounded by a rubber collar, which can be inflated until the space between the trachea and the tube is completely occluded. Respiration, of course, takes place through the tube, and anæsthesia is kept up by means of the same channel.

Mr. Bellamy offers two serious objections to this method: 1. That tracheotomy is in itself no insignificant operation, and is liable to its own mishaps. 2. The unreliability of the apparatus employed, for it may not always adapt itself to the trachea; it may give way at a critical moment, and finally because the best caoutchouc will not retain its elasticity (the latter being an argument against its employment by the country practitioner).

Rose prepares his patient as follows: After anæsthesia has been obtained, the shoulders of the patient are drawn over the end of the table, until the head shall hang vertically downward, being sustained by a careful assistant. In this position such operations as rhinoplasty, uranoplasty, laryngotomy, tonsillotomy, resection of the upper jaw, and operation for hare-lip, may be performed without detriment to the patient from the entrance of blood into the stomach or trachea, as that fluid will escape through the mouth and nose.

The operator, sitting or standing in front of his patient, is compelled to invert his incisions, making them from the mouth toward the vertex.

Dr. Burow, of Königsberg (*Berliner klinische Wochenschrift*, February, 1875), reports two cases of operations on the lower jaw, where Rose's method was employed.

Translations.

Vaginal Cysts.—Winkel, Kaltenbach, and Schröder, having recently called attention to the occurrence of cysts of the vagina, the question concerning their origin has again stimulated investigation. Some pathologists are inclined to look upon them as retention-cysts of glandular structures in the vagina, but, in regard to the existence of the latter, anatomists are much at variance, the majority believing that the vagina contains no glands. Dr. von Preuschen's (*Centralblatt*, 40, 1874) investigations led to the following results: The vagina possesses glands, though in some vaginas they are very scarce; the author has been able to demonstrate them in almost all examinations. These glands are of two kinds. Most often they are observed as moderately deep and broad crypts, with several narrow, digital appendages; single invaginations are more rare. The vaginal epithelium, which, in its upper and middle layers, consists of the pavement variety, and in its deepest layer of cylindrical cells, is continued into these invaginations. In the upper portion of the invagination the epithelium is disposed in several layers, but in a single layer in the deepest portion, where ciliated epithelium is found. The cysts of the vagina are retention-cysts. They occur either in the upper portion of the gland (cyst of the outlet) and then have pavement epithelium on their inner surface, or in the lower portions of the invagination. In the latter, by far the most frequent case, the cyst is situated in one of the above-mentioned finger-like appendages of the crypt. Hence the broad superior portion of the gland, which occasionally has appendages that have not undergone cystic degeneration, is found in contact with the free surface of the vagina. In all the cases the cysts had ciliated epithelium on their internal surface. The author maintains that those cysts which occur in the paravaginal tissue and occasionally project into the vagina, are distinct from the above. In one case, the connection of such a cyst with the urethra was demonstrable. The formation of these cysts seems to be more frequent than has hitherto been assumed.—*Med.-Chir. Centralblatt*, 50, 1874.

E. F.

Malformation of the Anus.—St.-Germain (*Gaz. des Hôpit.*, March, 1874) observed a rare form of anal malformation in a boy three days old. There was only slight bulging at the site of the anus; meconium was discharged through a fine opening somewhat to the right of the root of the penis. A canal about as thick as a raven's quill, and appearing like a blue cord through the skin, ran from the opening toward the perinæum, where it was lost. As the opening of the canal was too small to admit of the introduction of a sound, the canal was opened in its course, and by means of a director an artificial anus was established without difficulty.—*Wien. med. Wochenschrift.* E. F.

Carbolic Acid as an Antiphlogistic.—Hagen (*Aerztl. Intellig. Bl.*) reports several cases of phlegmonous inflammation of the hand, croupous laryngitis, and croupous pneumonia, which he has cured by injections of a solution of carbolic acid in the proportion of 2:100 (one to two syringefuls daily in adults, and half a syringeful in children). Even after the first injection the fever, pain, and swelling, were greatly modified. The injections were always made in the vicinity of the affected part. Kunge likewise reports happy results from this treatment in acute articular rheumatism and pneumonia.—*Med.-Chir. Centralblatt*, 47, 1874. E. F.

Treatment of Ganglion.—For the removal of ganglia at the wrist, A. Poucet (*Bull. de Thérap.*, p. 496, 1874) recommends simple incision, and in such as are easily movable, only slightly connected with the tendinous sheath, pediculated, so to speak, extirpation of the cyst. Immediately after incision or extirpation, the wound is brought together by metallic sutures; the fingers and arm are then wrapped in wadding, over which a firm dressing of water, glass, plaster, etc., is applied, which prevents all motion of the tendons. The dressing is removed in from eight to fourteen days. Ollier has for years attained the best results with this method, having always obtained union by first intention, and no accidents; even in case of old ganglion with thickened walls, complete movability of the tendons was restored. Berthelot succeeded in curing two old ganglia of the extensors of the hand by carrying through them a seton saturated with tincture of iodine.—*Med.-Chir. Centralblatt*, 47, 1874. E. F.

On the Use of the Stomach-Pump.—Kussmaul has employed the stomach-pump in cases of gastric dilatation, and this species of medication has found many advocates in Germany. Dr. Paul Schliep has washed and cleansed the stomach with the aid of this instrument in almost all gastric affections, but principally in the treatment of chronic idiopathic or symptomatic gastritis, with or without dilatation. When the catarrh is simple but chronic, about nine operations on the average are necessary to effect a cure; in some cases even two or three washings will suffice; in phthisis, the improvement in digestion is almost always followed by an increase in weight. In dilatation of the stomach the pump should be employed as soon and as regularly as possible, and the stomach should be emptied completely every day. In cancer, the use of the stomach-pump constitutes a valuable palliative measure. The fluid employed by the author for the operation is tepid water, either pure or charged with the following remedies: 1. Bicarbonate of soda, when the reaction of the gastric fluid is very acid; 2. Permanganate of potassa, when the fluids show signs of decomposition; 3. Carbolic acid, when there are vegetable parasites; Boracic acid as a disinfectant; Tincture of myrrh in atonic dyspepsia, with abundant production of mucus.—*Rev. des Sciences Méd.*, *Lyon Médicale*, October, 1874. E. F.

Contraindication against Removal of Melanotic Tumors.—Nepveu (*Gaz. Méd.*), in the examination of the blood of four individuals who were affected with melanotic tumors, found that the number of white blood-corpuscles was increased, and that they were filled with fine blackish-brown particles of pigment; brownish pigment and colored casts were likewise found in the blood-serum. The urine was dark, revealed the same bodies, and was colored black by nitric acid. This discovery, a certain sign of constitutional affection, furnishes a contraindication against the extirpation of melanotic tumors.—*Berlin klin. Wochenschrift*, 1874. E. F.

Enchondroma of the Pelvis.—Dintler reports, in the *Upsala läkarefören. förhand.*, the case of a farmer, fifty-six years of age, in whom, in the space of a year and a few months, a tumor was gradually developed in the left side of the sacrum. The symptoms during life were: neuralgia, left sciatica, neuralgia of left leg, and ischuria. Later, there was a rapidly-increasing hard lump in the left gluteal region. When this had attained the size of a man's fist the patient died. Section showed that the tumor was an enchondroma, consisting principally of cartilaginous tissue, with in part large, round or oval cartilage-cells and a distinct capsule; in part star-shaped anastomosing cells in a hyaline or fibrillary basis substance, in part gelatinous tissue with anastomosing stellate cells. Connective-tissue bands from the surrounding capsule divided the tumors into lobes. Large vessels and blood-extravasations were met with, particularly in the peripheral portions. The portion of the tumor outside of the pelvis, lying beneath the gluteal muscles, presented a far-advanced fatty degeneration. Within the pelvis, the tumor was the size of a man's fist, occupying the entire left concave surface of the sacrum and surrounding the left sacral nerves, the pyramidalis muscle, and the ischiatic nerve at its exit from the pelvis. These organs were, for the most part, destroyed. Thromboses could not be detected either in the lungs or in the other organs. The tumor was developed from both the anterior and the posterior surfaces of the sacrum.—*Nordiskt. Med. Arkiv.*, vol. vi., No. 3. G. R. C.

Cesarean Section; Mother and Child saved.—Dr. Valentinotti reports a case of Cesarean section which was successful for the mother and child. The great interest of the case consisted in the use of an India-rubber cord covered with silk, such as is found in commerce, for the sutures. Four points of sutures, passing through the entire thickness of the uterine walls, were used. These threads were cut near the knots, and the remainder abandoned in the abdomen. The abdominal parietes were brought together with ordinary sutures. On the thirty-first day after the operation the patient walked about her room. A second interesting feature of the case was the use of chloral for diminishing the pain of the operation. Ten grammes were given in two doses, with an interval of about half an hour. The patient scarcely knew that the operation was taking place, and at its completion slept profoundly.—*Gazz. Obstet.* and *Giorn. Veneto di Scienz. Med.*, June, 1874. G. R. C.

Extrusion of a Dew-worm from the Vagina.—J. A. Waldenström reports in the *Upsala läkarefẗoren. förhand.* the case of an old woman who had long suffered from cancer of the breast and rheumarthritis deformans, and who had for a year been tormented by a peculiar itching of the sexual organs. The itching ceased immediately after the extrusion of a worm (lumbricus communis, var. cyaneus) 100 millimetres in length, from the vagina. The worm, on close examination, resembled the ordinary earthworm, with the exception that it was somewhat lighter, more transparent, and there were four instead of two elevations on the under side. This worm lived for a whole month in water, while the ordinary earthworm dies after an exposure of half a day in water.—*Nordiskt. Med. Arkiv.*, vol. vi., No. 3. G. R. C.

Miscellany.

Anæsthesia during Sleep.—Dr. J. Schenck, of Mount Carmel, Ill., relates the following case, in the *Medical Examiner* of April 15th:

"April 28, 1873, was called to see J. W., a rugged-framed but anæmic boy of five years. Examination revealed a large polypus of the vesicular variety in the left naris. Upon making an attempt to extract it, he became so badly frightened that I had to desist. Called the next morning at six o'clock, and found him asleep. I rolled a handkerchief into the shape of a bird's nest, in which I poured about one drachm of chloroform; this was at first held about six inches from the mouth, and gradually brought nearer until total anæsthesia was produced. I now extracted the polypus, and did not even appear to disturb the child in his sleep."

Kentucky State Medical Society.—At the twentieth annual session, held in Henderson, April 13th and 14th, the following officers were elected: President, Dr. J. A. Hodge, of Henderson; Vice-Presidents, Drs. T. Anderson and O. Newland; Secretary, Dr. J. A. Larabee; Treasurer, Dr. J. W. Singleton; Librarian, Dr. J. J. Speed. The next meeting will be held in Hopkinsville.

Medical and Chirurgical Society of Maryland.—The seventy-seventh annual session was held in Baltimore, April 13th to April 17th. The following officers were elected: Dr. John F. Monmonier, President; Drs. Christopher Johnston, A. B. Arnold, and J. Carey Thomas, Vice-Presidents; Drs. W. G. Regester and G. L. Taneyhill, Recording Secretaries; Dr. Lindley Ellicott, Corresponding Secretary; Dr. Judson Gilman, Treasurer; Dr. S. C. Chew, chairman of Executive Committee.

Medical Association of Georgia.—The annual meeting was held in Savannah, April 21st, 22d, and 23d. The following officers were elected for the ensuing year: President, J. G. Thomas, M. D., Savannah; First Vice-President, T. J. Word, M. D., Columbus; Second Vice-President, W. A. Greene, M. D., Americus; Censor, T. J. Charlton, M. D., Savannah. The next meeting will be held in Augusta.

Alabama Medical Association.—The annual meeting of this Association was held in Montgomery, April 13th, 14th, and 15th. Several excellent papers were read and discussed. The following officers were elected for the ensuing year: President, Dr. J. J. Dement, Huntsville; First Vice-President, Dr. P. Bryce, Tuscaloosa; Second Vice-President, Dr. F. M. Peterson, Greensboro'; Censor, Dr. W. H. Anderson, Mobile; Orator, Dr. R. F. Michel, Montgomery—alternate, Dr. C. Toxey, Mobile. Board of Health Officers: Dr. G. A. Ketchum, five years; Dr. E. A. Semple, four years; Dr. E. P. Gaines, three years; Dr. C. D. Parke, two years; Dr. S. D. Seelye, one year. Dr. B. H. Riggs was reëlected Secretary, and Dr. W. C. Jackson Treasurer.

The Association will meet next in Mobile, on the second Tuesday in April, 1876.

Case of Triplets.—The *Atlanta Medical and Surgical Journal* of May says: "We learn that the wife of Mr. W. T. Chappell, near Rocky Mount, in Meriwether County, brought forth two girls and a boy on the 14th inst. The mother and offspring are doing well. Dr. J. J. Addy, Drs. J. P. and J. W. Taylor, and Dr. W. H. Hardison, were the physicians in attendance."

The New York Eye and Ear Infirmary.—According to the fifty-fourth annual report of this institution, there were treated, during the year 1874, 7,464 cases of diseases of the eye, 2,439 cases of diseases of the ear, and 583 cases of diseases of the throat, making a total of 10,486. The operations performed during the same period were 1,131. Dr. Derby's report of the results, in thirty-eight operations for cataract performed at the Infirmary, is included in the pamphlet, and analytical reports are made of the different departments.

Ziemssen's Cyclopædia.—The publishers of this work desire to notify the profession that they cannot supply odd volumes or parts of sets, and that all subscriptions must, therefore, be for the entire work.

Journalistic Notes.—Dr. Edward B. Stevens, late editor of the *Cincinnati Lancet*, announces a new medical publication, the *Central New York Journal of Medicine and Surgery*, of which the first number will appear July 1st. We have received the first number of the *Medical Register and Advertiser*, a quarterly journal published in Anna, Illinois, and edited by Dr. James I. Hale. The *American Medical Weekly* now appears in a neat gray cover, and gives every indication of increasing prosperity.

The Montreal Medical Schools.—There has been what the *Canada Medical Record* calls "quite an earthquake" among the professors of the two English medical schools of Montreal. The following changes are the result: Dr. George W. Campbell, Dean of the Medical Faculty of McGill College, and Professor of the Theory and Practice of Surgery, has resigned his chair. He still remains in the Faculty as Dean, and Emeritus Professor of Surgery. Dr. Campbell has been connected with McGill College, as Lecturer, and then Professor of Surgery, since 1836. The vacant chair is filled by Dr. George E. Fenwick, editor of the *Canada Medical and Surgical Journal*, and late Professor of Clinical Surgery and Medical Jurisprudence in McGill College. Dr. Robert T. Godfrey, late Professor of the Theory and Practice of Surgery in the Medical Faculty of Bishop's College, has resigned his connection with that school, and has been offered the chair (a new one) of Hygiene in McGill College. Dr. Thomas G. Roddick, late Lecturer on Hygiene and Demonstrator of Anatomy in McGill College, has been appointed Professor of Clinical Surgery in the same school, the chair being vacant by the transference of Dr. Fenwick to that of Systematic Surgery. Dr. William Gardner has resigned his professorship of Medical Jurisprudence in Bishop's College, and has accepted the same chair in McGill College. Dr. Richard A. Kennedy, late Professor of Anatomy in Bishop's College, has been elected to fill the chair of Surgery in the same school, rendered vacant by Dr. Godfrey's resignation. Dr. James Perrigo (late Demonstrator of Anatomy in Bishop's College) has been elected Professor of Medical Jurisprudence, the chair vacated by Dr. Gardner. Dr. William Fuller (late Demonstrator of Anatomy in McGill College) has been elected Professor of Anatomy in Bishop's College Medical Faculty, that chair being rendered vacant by Dr. Kennedy's transference to Surgery. Dr. André Latour has been appointed Demonstrator of Anatomy in the Medical Faculty of Bishop's College. Dr. Wolford Nelson has been appointed Assistant Demonstrator of Anatomy in Bishop's College, and remains Curator to the Museum. Dr. Sheppard (M. D. McGill College, 1874) has been appointed Demonstrator of Anatomy in McGill College.

Medical Association of the State of Missouri.—The ninth annual session was held in Jefferson City, April 20th and 21st. The President, Dr. W. O. Torrey, being absent, the chair was filled by Dr. J. S. B. Alleyne, of St. Louis. The following officers were elected for the ensuing year: President, Dr. J. T. Hodgen, of St. Louis; First Vice-President, Dr. F. M. Johnson, of Platte City; Second Vice-President, Dr. J. M. Allen, of Liberty; Third Vice-President, Dr. J. S. B. Alleyne, of St. Louis; Fourth Vice-President, Dr. J. T. Wilson, of Weston; Fifth Vice-President, Dr. G. B. Winston, of Jefferson City; Recording Secretaries, Drs. E. W. Schauffler, of Kansas City, and H. N. Spencer, of St. Louis; Corresponding Secretary, Dr. J. H. Britts, of Clinton; Treasurer, Dr. A. H. Kincannon, of Clinton.

The next meeting will be held in St. Louis, in April, 1876.

Blank Charts.—We have received from the Cincinnati Case-Record Company specimens of blank forms intended to lessen the labor of keeping careful clinical records of pulse, temperature, respirations, etc. Each blank is provided with diagrams for regional notes, and seem equally well adapted to private or hospital practice.

California State Medical Society.—The fifth annual meeting of this Society was held in Sacramento, April 21st and 22d, and was largely attended. The proceedings appear to have been highly satisfactory to all concerned. The following are the officers for the ensuing year: President, A. B. Nixon, M. D., of Sacramento; First Vice-President, W. F. Cheney, M. D., of Chico; Second Vice-President, H. H. Toland, M. D., of San Francisco; Third Vice-President, W. R. Cluness, M. D., of Sacramento; Fourth Vice-President, H. S. Orme, M. D., of

Los Angeles; Permanent Secretary, G. G. Tyrrell, M. D., of Sacramento; First Assistant Secretary, W. T. Wythe, M. D., of San Francisco; Second Assistant Secretary, C. H. Fisher, M. D., of Sacramento; Treasurer, I. E. Oatman, M. D., of Sacramento; Censors: Drs. Bentley, of San Francisco; Kirkpatrick, of Redwood City; Babcock, of Oakland; Tyrrell, of Sacramento; Gibbons, Sr., of San Francisco.

The next meeting will be held in San Francisco, on the third Wednesday in April, 1876.

Association of Medical Editors.—At the recent meeting of this Association, the following officers were elected for the ensuing year: President, Dr. Bell, of *The Sanitarian;* Vice-President, Dr. H. C. Wood, Jr., of the *Philadelphia Medical Times;* Secretary, Dr. F. C. Davis, of the *Chicago Medical Examiner.*

Remarkable Case of Twin Gestation.—At the recent meeting of the Alabama Medical Association, Dr. McKeithen related the following case:

A colored woman gave birth, in Prattsville, last March, to two children—one a mulatto, the other a full-blooded negro. Fifteen minutes elapsed between the delivery of the two. The dark child was born first. The umbilical cords were distinct, and entered the placentæ at a common point. The placentæ were intimately blended. The mother of the children is very black, a true African, with kinky hair and flat nose. She had been married ten years to a husband of the same type as herself, and had borne children previously, who were all black, resembling her husband and herself. There was a marked difference in these two children. One was a bright-colored mulatto, with straight, reddish, sandy-looking hair, and hazel eyes; the other was black, with flat nose, thick lips, black, kinky hair, and black eyes. Both the children are doing well. The bright one looks the healthier; the black one is the larger. He believes the children are the offspring of two fathers, differing in "race, color, and perhaps previous condition of servitude."

Appointments, Honors, etc.—Prof. Alfred C. Post has resigned the chair of Surgery in the Medical Department of the University of New York, and has been elected Emeritus Professor of Clinical Surgery. Prof. John T. Darby has been elected to fill the vacancy. At a quarterly meeting of the Trustees of the College of Physicians and Surgeons, on the 11th ult., Alonzo Clark, M. D., was unanimously elected President of the College. Thomas F. Cock, M. D., was elected Trustee in place of Edward Delafield, M. D., deceased. Francis Delafield, M. D., was appointed adjunct Professor of Pathology and Practical Medicine. Prof. Gerrish, who was appointed to fill the temporary vacancy in the Medical Faculty of the University of Michigan, caused by the ill health of Prof. Cheever, on the return of the latter from his two years' residence in Colorado, in a much improved condition, has resigned, and resumed his practice in Portland and his duties as professor in Bowdoin College. Drs. G. G. Tarbell and C. B. Porter, of Boston, and Dr. Azel Ames, Jr., of Wakefield, have been appointed examining surgeons of the United States Pension Bureau, *vice* Drs. J. B. Treadwell, H. Doherty, and H. Chase, of Boston, discharged. Dr. S. A. Green has been reappointed City Physician, and Dr. C. Irving Fisher Port Physician, of Boston. The Colorado Territorial Medical Society will hold its fifth annual session in Denver, June 9th. Dr. D. W. Cheever has been appointed Professor of Clinical Surgery in the Harvard Medical School.

Dr. Bell Pettigrew, F. R. S., Lecturer on Physiology at Surgeons' Hall, Edinburgh, has been awarded the Godard Prize of the French Academy of Sciences for his original anatomical and physiological memoirs. Dr. Pettigrew, in virtue of the above distinction, becomes a Laureate of the Institute of France. Mr. A. H. Garrod, of King's College, Cambridge, has been appointed Fullerian Professor of Physiology to the Royal Institution for the next three years. Mr. J. F. Blake, M. A., Cantab., has been appointed Lecturer on Comparative Anatomy and Zoölogy at Charing-cross Hospital, *vice* Prof. Garrod, resigned. Mr. Blake is favorably known as the author of "The Catechism of Zoölogy." Sir Henry Thompson has resigned his appointments in connection with University College and Hospital. The Royal College of Surgeons of Edinburgh has petitioned the House of Commons against the bill for registering foreign degrees in medicine when held by women. A third chair of Chemistry is to be created in the Faculty of Sciences of Paris, the necessary grant having been unanimously voted by the National Assembly. The new chair is to be devoted to organic chemistry. The International Medical Congress for 1875 will be held at Brussels in September next, commencing on the 19th of that month. The meeting will last about a week. Prof. Wurtz, Dean of the Paris School of Medicine, has recently resigned the appointment of dean. The professors of the institution will shortly be convened for the purpose of electing his successor. Dr. Wernich, *Privatdocent* in Berlin, has been appointed by the Japanese Government teacher of Clinical Medicine in the Medico-Chirurgical School at Jeddo. Mdlle. Lehmus, of Fürth, Bavaria, has just received from the Faculty of Medicine of the Zurich University the diploma of doctor in medicine, chirurgy, and obstetrics. The Prince of Bavaria, whose sister married the Crown-Prince Rudolf of Austria, has adopted medicine as his profession. The Baly Medal of the Royal College of Physicians, of England, has been unanimously awarded to Professor Claude Bernard.

The Presbyterian Hospital Management.—The following letter has been sent to the managers of the Presbyterian Hospital, in relation to the recent sudden dismissal of four members of the visiting staff of that hospital. We are able to say that the letter did not originate with, or was not suggested by, any one in any way connected with that institution :

To the Managers of the Presbyterian Hospital :

GENTLEMEN : We, the undersigned, members of the medical profession in New York, have learned with deep regret the late action of your Board, whereby you have dismissed from your hospital four members of the visiting staff without assigning any ground for such a course. So far as is known, these gentlemen were fully competent for the positions which they held, and discharged their duties with diligence and skill.

We believe that you have failed to realize the full character of your action. In summarily discharging these gentlemen, you in effect proclaim your opinion that they are unfit for the positions which they held. By so doing you incur the responsibility of seriously injuring their reputation; and you have taken this grave step without preferring any charges, or assigning any reason for so doing. We believe you will admit that, while you have acquired certain rights in assuming the position of managers of a hospital, you have also incurred certain obligations. While it is your right to appoint and dismiss the medical staff, it is also your duty to exercise this right for the best interests of the hospital. It is evidently your duty to obtain for the patients under your charge the best medical and surgical skill which our profession affords. We can hardly believe that any physician or surgeon of reputation will serve in an institution from which he is liable to be discharged without just grounds.

We believe, therefore, that both as members of the medical profession and as citizens we are justified in asking that you shall make public the reasons for your late action. If these gentlemen have in any way shown themselves unfit for their positions, let the facts be made known. If they have been discharged simply from caprice, they have a right to demand that this shall be made as public as their dismissal. We have the honor to be, very respectfully, your obedient servants,

Abram Dubois, M. D., Consulting Surgeon New York Eye and Ear Infirmary.

T. M. Markoe, M. D., Professor of Surgery, College of Physicians and Surgeons, etc.

Frank H. Hamilton, M. D., Surgeon to Bellevue Hospital.

H. B. Sands, M. D., Professor of Anatomy, College of Physicians and Surgeons.

James W. McLane, M. D., Adjuvant Professor of Obstetrics, College of Physicians and Surgeons.

Francis Delafield, M. D., Physician to Bellevue Hospital, etc.

John T. Metcalfe, M. D., Consulting Surgeon to Roosevelt Hospital.

T. Gaillard Thomas, M. D., Professor of Obstetrics, College of Physicians and Surgeons, etc.

William H. Van Buren, M. D., Consulting Surgeon to Bellevue Hospital.

J. L. Little, M. D., Surgeon to St. Luke's Hospital, etc.

James R. Wood, M. D., Surgeon to Bellevue Hospital, etc.

Woolsey Johnson, M. D., Throat-Surgeon, New York Eye and Ear Infirmary, etc.

William H. Thompson, M. D., Physician to Bellevue and Roosevelt Hospitals.

Erskine Mason, M. D., Surgeon to Bellevue and Roosevelt Hospitals.

Austin Flint, M. D., Physician to Bellevue Hospital, etc.

David Magie, M. D., Registrar New York Hospital.

C. R. Agnew, M. D., Surgeon Manhattan Eye and Ear Hospital.

William T. Lusk, M. D., Professor of Obstetrics, Bellevue Hospital Medical College.

D. B. St. John Roosa, M. D., Professor of Diseases of Eye and Ear, University of City of New York.

Thomas Addis Emmet, M. D., Surgeon Woman's Hospital of State of New York.

Fordyce Barker, M. D., Obstetric Physician to Bellevue Hospital.

Henry C. Eno, M. D., Surgeon New York Eye and Ear Infirmary.

Charles P. Russel, M. D., Health Department of New York City.

Charles E. Hackley, M. D., Physician to New York Hospital, etc.

J. J. Hull, M. D., Physician to Nursery and Child's Hospital.

F. N. Otis, M. D., Surgeon Charity Hospital, Professor College Physicians and Surgeons.

A. Jacobi, M. D., Physician to Bellevue, Mount Sinai, and German Hospitals.

Robert Watts, M. D., Visiting Physician to Charity and Roosevelt Hospitals.

John G. Curtis, M. D., Lecturer Ad. Physiology, College of Physicians and Surgeons, etc.

Frederick R. Sturgis, M. D., Surgeon to Charity and Manhattan Eye and Ear Hospitals.

Henry F. Walker, M. D., Physician to Bellevue Hospital.

W. M. Polk, M. D., Physician to Bellevue Hospital.

Thomas T. Sabine, M. D., Surgeon St. Luke's Hospital, etc.

Stuyvesant Fish Morris, M. D., Surgeon New York Dispensary, etc.

Hermann Althof, M. D., Surgeon New York Eye and Ear Infirmary and German Hospital.

E. P. Kinnicutt, M. D., Physician to Out-Door Department Bellevue Hospital.

Robert F. Weir, M. D., Surgeon Roosevelt Hospital, etc.

Edw. G. Loring, M. D., Surgeon New York Eye and Ear Infirmary.

Andrew H. Smith, M. D., Physician to St. Luke's Hospital.

Bache McEvers Emmet, M. D., Assistant Surgeon to the Woman's Hospital.

W. H. Draper, M. D., Physician to New York and Roosevelt Hospitals.

Morris J. Asch, M. D., Physician to Metropolitan Throat Hospital.

Henry D. Noyes, M. D., Surgeon New York Eye and Ear Infirmary.

Clinton Wagner, M. D., Physician to Metropolitan Throat Hospital.

J. L. Campbell, M. D., Physician New York Orphan Asylum.

Ernst Krackowizer, M. D., Surgeon New York, Mount Sinai, and German Hospitals.

J. P. P. White, M. D., Surgeon to Charity Hospital.

Walter R. Gillette, M. D., Physician to Charity Hospital, etc.

Alfred L. Loomis, M. D., Physician to Bellevue Hospital, etc.

Edward G. Janeway, M. D., Physician to Bellevue Hospital, etc.

Charles McBurney, Jr., M. D., Surgeon to St. Luke's Hospital, etc.

Austin Flint, Jr., M. D., Professor of Physiology Bellevue Hospital Medical College.

J. W. S. Gouley, M. D., Surgeon to Bellevue Hospital, etc.

Edward Curtis, M. D., Professor of Materia Medica, etc., College of Physicians and Surgeons.

Charles Laight, M. D., Surgeon New York Eye and Ear Infirmary.

Freeman J. Bumstead, M. D., Surgeon Charity Hospital, etc.

George M. Lefferts, M. D., Throat-Surgeon New York Eye and Ear Infirmary.

W. Cockcroft, M. D., No. 59 West Forty-fifth Street.

J. S. Thebaud, M. D., Surgeon to the Colored Hospital.

John Clarkson Jay, M. D., Physician to Children's Dispensary.

Richard H. Derby, M. D., Surgeon to New York Eye and Ear Infirmary, etc.

Beverly Robinson, M. D., Surgeon to Manhattan Eye and Ear Hospital.

E. R. Peaslee, M. D., Physician Woman's Hospital State of New York.

Thomas F. Cock, M. D., Physician to the New York Hospital, etc.

Successful Transfusion.—*L'Imparziale*, No. 11, 1874, says that Prof. Caselli performed this operation upon a girl affected with lipomania and stupor, who was unable to speak or to perform any movements at all complex. The blood used was taken from a sheep, and flowed from the vessel at the rate of two ounces in fifteen seconds. It was conducted directly into the veins of the patient by means of a tube. After being allowed to flow for a quarter of a minute the transfusion was stopped, and the patient appeared greatly revived, showed some color, took a deep inspiration, spoke a few words, and made movements. The effect was permanent, and recovery followed.—*Medical Record.*

Diagnosis of Ovarian Disease.—Mr. Spencer Wells called attention, at a recent meeting of the London Pathological Society, to the fact that while extra-ovarian cysts are often radically cured by a single tapping, the cyst contracting and never refilling, true ovarian single cysts are almost certain to fill again. The contents of parovarian cysts consisted of little more than pure water.

Homœopathy in Canada.—The homœopathic members of the Ontario Medical Council, alarmed at the absence of homœopathic candidates for licenses to practise, had threatened to retire from the Council and apply for separate legislation in their favor. We learn now, from the *Canada Medical Record*, that they have decided to remain and take their chances under the existing law.

Retained Placenta.—Dr. Lineárd, of Caen (*Gazette des Hôpitaux*), recommends in retained placenta, and for the prevention of after-pains and uterine hæmorrhage, the injection of the umbilical cord with cold water by means of a syringe.

Medical Legislation in Georgia.—The Legislature of Georgia, at its last session, passed two laws which are of special interest to the medical profession of the State: 1. A law creating a State Board of Health, which board is charged with the registration of births, deaths, and marriages, in addition to its general sanitary duties; and, 2. A law granting to physicians the same right of garnishment for their fees as has previously been given to grocers and provision-dealers for their security for supplies furnished to laborers. The latter law had become a real *necessity* to the community, as well as to the profession throughout the whole State, and will bring hope and joy to the heart of many a lean and lantern-jawed disciple of Æsculapius, whose patrons have unfeelingly driven him to the very verge of starvation.—*Atlanta Medical and Surgical Journal.*

Army Intelligence.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from April 14 *to May* 13, 1875.

McCormick, Charles, Surgeon.—Granted leave of absence for four months, with permission to go beyond sea. S. O. 69, A. G. O., April 19, 1875.

Sloan, William J., Surgeon.—When relieved by Surgeon Head, to report in person to the commanding general, Department of Dakota, for duty as Medical Director. S. O. 73, A. G. O., April 23, 1875.

Keeney, C. C., Surgeon.—During absence of the Medical Director of the Department, to perform his duties. S. O. 40, Department of California, April 29, 1875.

Head, J. F., Surgeon.—Announced as Medical Director of the Department. G. O. 3, Department of the South, April 30, 1875.

Edwards, L. A., Surgeon.—Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 71, Military Division of the Atlantic, April 14, 1875.

Hammond, J. F., Surgeon.—Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 67, A. G. O., April 15, 1875.

Moore, John, Surgeon.—Assigned to duty as Medical Director of the department. G. O. 5, Department of Texas, April 13, 1875.

Bailey, J. C., Surgeon.—Assigned to duty at post of Columbia, S. C. S. O. 59, Department of the South, May 6, 1875.

Byrne, C. C., Surgeon.—Transferred from Willet's Point, N. Y. H., to Department of Dakota. S. O. 73, C. S., A. G. O.

Bache, D., Surgeon.—Relieved from temporary duty in Baltimore, and to resume his duties at Fort McHenry, Md. S. O. 76, A. G. O., April 28, 1875.

Frantz, J. H., Surgeon.—Transferred from Department of the South to Military Division of the Atlantic. S. O. 73, C. S., A. G. O.

Weeds, James F., Surgeon.—Transferred from Department of Dakota to Department of the South. S. O. 75, A. G. O., April 27, 1875.

Wolverton, W. D., Assistant Surgeon.—Transferred from Department of the South to Department of Dakota. S. O. 75, C. S., A. G. O.

Jaquett, G. P., Assistant Surgeon.—Assigned to temporary duty with geologist's escort to the Black Hills. S. O. 44, Department of the Platte, April 13, 1875.

Gibson, J. R., Assistant Surgeon.—Transferred from Department of the South to Department of the Platte. S. O. 73, C. S., A. G. O.

O'Reilly, R. M., Assistant Surgeon.—Relieved from duty in Department of the Platte, to report in person to the President of the Army Medical Board, New York City, for examination for promotion, and, upon its completion, by letter to the Surgeon-General. S. O. 73, C. S., A. G. O.

White, R. H., Assistant Surgeon.—Leave of absence extended six months, with permission to go beyond sea. S. O. 67, C. S., A. G. O.

DeWitt, C., Assistant Surgeon.—Assigned to duty at Charleston, S. C. S. O. 59, C. S., Department of the South.

Weisel, D., Assistant Surgeon.—Granted leave of absence for one month. S. O. 56, Department of the South, May 1, 1875.

Elbrey, F. W., Assistant Surgeon.—Assigned to duty at Lebanon, Ky. S. O. 52, Department of the South, April 21, 1875.

Matthews, W., Assistant Surgeon. — Transferred from Military Division of the Atlantic to Department of California, and, prior to departure, to report to the President of the Army Medical Board, New York City, for examination for promotion. S. O. 73, C. S., A. G. O.

Munn, C. E., Assistant Surgeon.—Transferred from Military Division of the Atlantic to Department of the Platte. S. O. 73, C. S., A. G. O.

Cowdrey, S. G., Assistant Surgeon.—Relieved from duty in Department of the Missouri, to report to the President of the Army Medical Board, New York City, for examination for promotion, and, upon its completion, by letter to the Surgeon-General. S. O. 73, C. S., A. G. O.

Hoff, J. V. R., Assistant Surgeon.—Assigned to temporary duty at Fort Sanders, Wyoming Territory, during temporary absence of Dr. Jaquett. S. O. 44, C. S., Department of the Platte.

Semig, B. G., Assistant Surgeon.—Assigned to duty at Fort Yuma, California. S. O. 25, Department of Arizona, April 12, 1875.

Finley, J. A., Assistant Surgeon.—Having reported in accordance with S. O. 73, C. S., A. G. O., assigned to duty at Cantonment, on the North Fork of Red River, Texas. S. O. 67, Department of the Missouri, May 5, 1875.

DeLoffre, A. A., Assistant Surgeon.—When relieved by Assistant-Surgeon Finley, assigned to duty at Fort Larned, Kansas. S. O. 67, C. S., Department of the Missouri.

Bedal, S. S., Assistant Surgeon.—Transferred from Military Division of the Atlantic to Department of Texas. S. O. 73, C. S., A. G. O.

Hamilton, J. B., Assistant Surgeon.—Transferred from St. Louis Barracks, Mo., to Department of the Columbia. S. O. 73, C. S., A. G. O.

Maus, L. M., Assistant Surgeon.—Assigned to duty at Frankfort, Ky. S. O. 59, C. S., Department of the South.

Obituary.

William Beattie, M. D., F. R. C. P., died in London, March 17th, aged eighty-two years. Dr. Beattie was physican by appointment to the Duke of Clarence, afterward William IV., and accompanied the duke and duchess in their visits to foreign courts. He thus obtained much of the experience that he afterward turned to account in several of his literary works. He was the author of a number of works of considerable ability, of which the most popular is "The Life and Letters of Thomas Campbell," to whom he was friend and physician. Dr. Beattie bore and deserved the reputation of a good physician and a kind-hearted, generous man.

Dr. Joshua Riley, of Georgetown, D. C., died recently, of angina pectoris, aged seventy-five years. He graduated at the University of Maryland in 1824, soon after which he commenced the practice of medicine, and located in Georgetown. From 1844 to 1859 he occupied the chair of Materia Medica in the Medical Department of Columbian College, and for many years was President of the Medical Association of the District of Columbia.

Dr. Alexander Göschen, editor of the *Deutsche Klinik*, died recently, in his sixty-second year. He founded that journal twenty-six years ago, and edited it up to the time of his death. It is said to be the first medical weekly journal established in Germany.

Dr. von Luschka, Professor of Anatomy in Tübingen, died March 1st. He enjoyed a high reputation as an anatomist.

Daniel Hanbury, F. R. S., long and well known as a writer and investigator on pharmacological subjects, and associate author of the "Pharmacographia," died at his residence in London, March 24th, in the fiftieth year of his age.

Dr. T. Blanch Smith, of Nyack, N. Y., died April 14th, aged forty years. He graduated at the College of Physicians and Surgeons of New York in 1855. He was elected President of the village of Nyack in 1874 and again in 1875. He was an able and successful practitioner, and was highly esteemed by a wide circle of friends.

The *Lancet* announces the death of Dr. Robert Law, Professor of the Institutes of Medicine and Clinical Medicine, School of Physic, Dublin, and consulting physician to Adelaide Hospital. Dr. Law was formerly President of the Dublin Pathological Society, and Physician to Sir Patrick Dun's Hospital. Dr. Law in his lifetime contributed several valuable papers to medical literature.

Dr. Madison Marsh, of Port Hudson, La., died February 1st, aged sixty-five years.

Susan Dimock, M. D., of Boston, for a long time resident physician of the New England Hospital for Women and Children, was among the passengers lost by the wreck of the Schiller.

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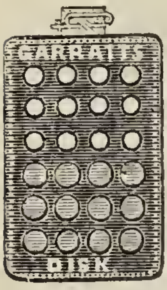

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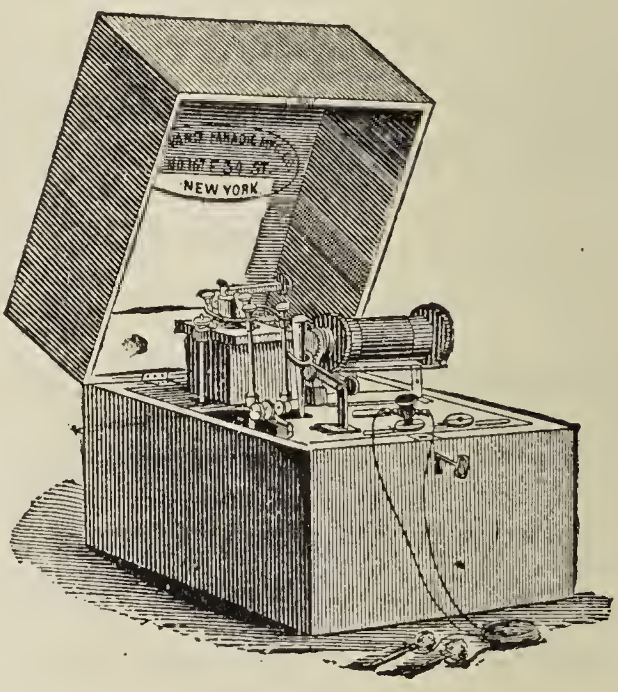
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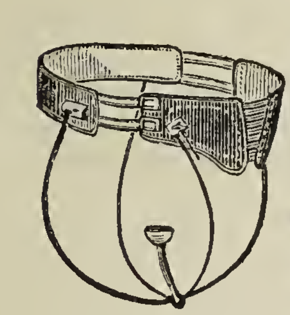

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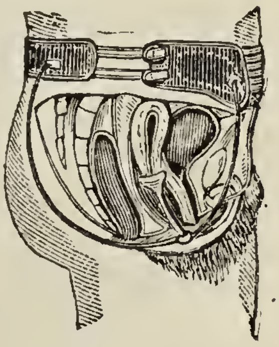

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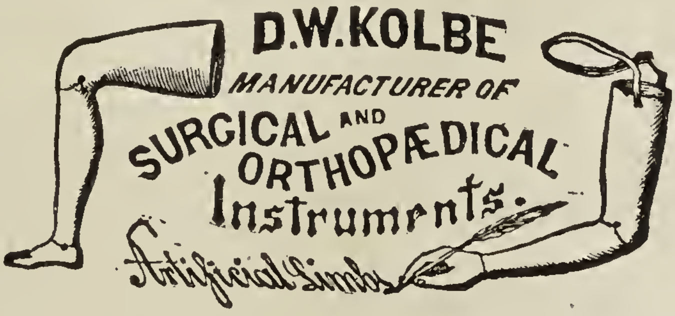

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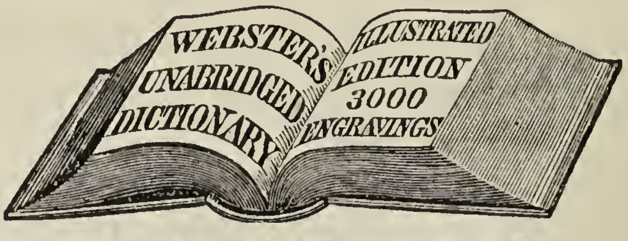

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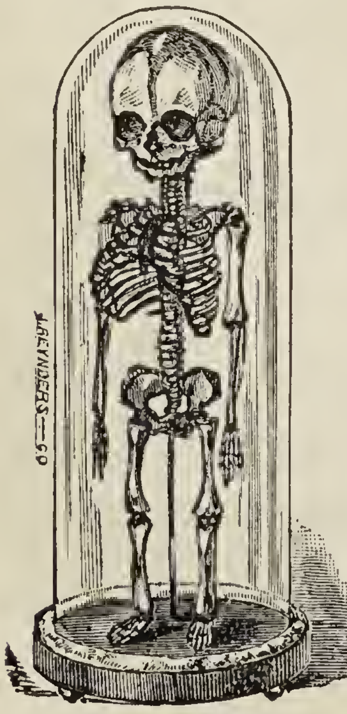

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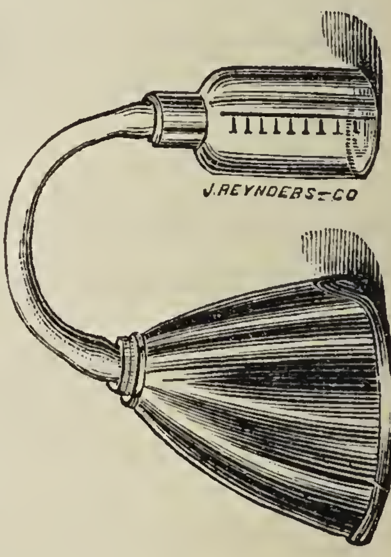

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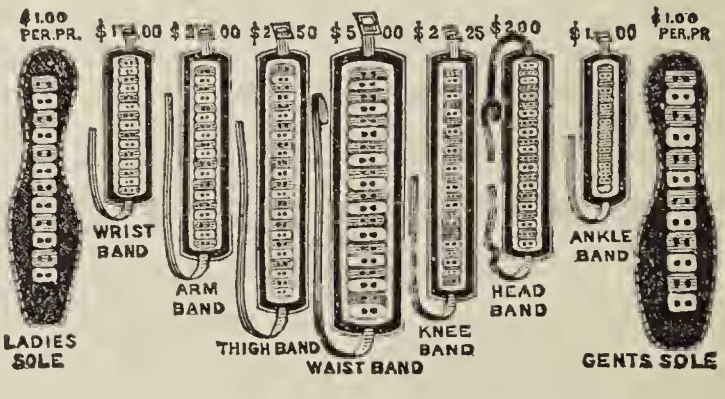

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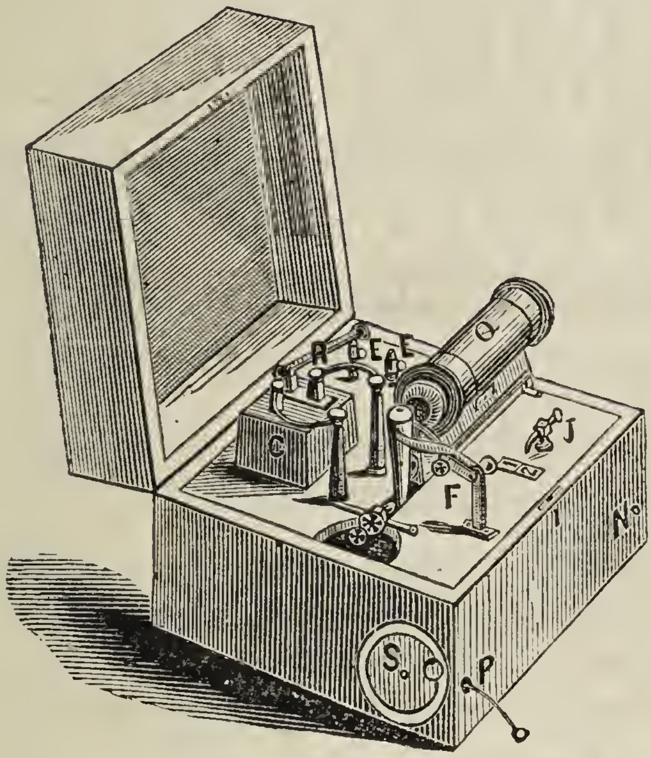

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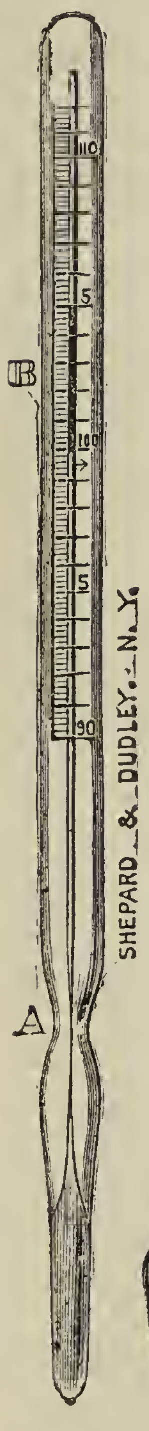

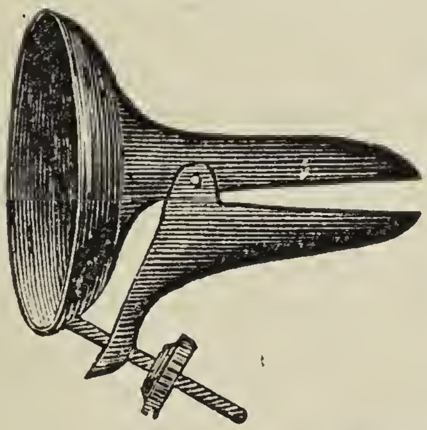

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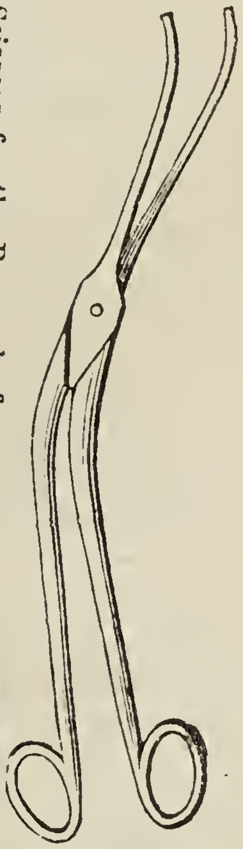

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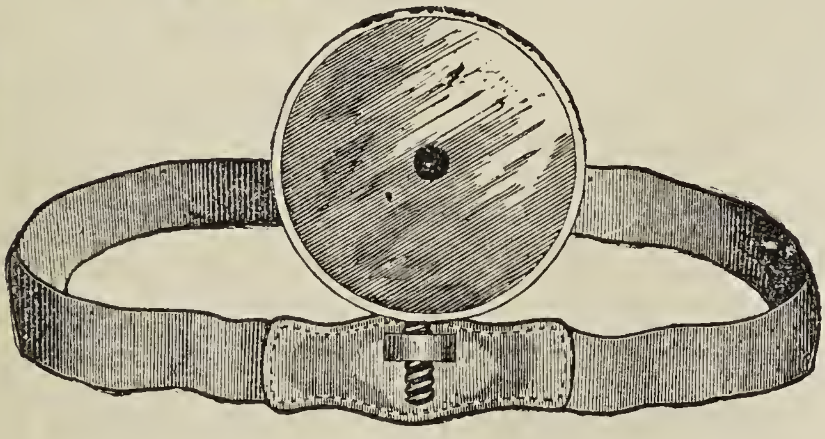

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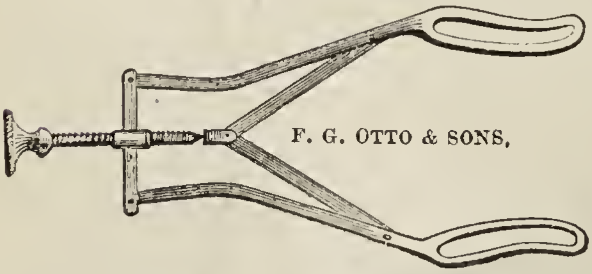

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SESSIONS OF 1874–1875.

THE COLLEGIATE YEAR in this Institution embraces a preliminary Autumnal Term, the Regular Winter Session, and a Summer Session.

THE PRELIMINARY AUTUMNAL TERM for 1874–1875 will commence on Wednesday, September 16, 1874, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures on special subjects, and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students designing to attend the Regular Session are strongly recommended to attend the Preliminary Term, but attendance during the latter is not required. *During the Preliminary Term, clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.*

THE REGULAR SESSION will commence on Wednesday, September 30, 1874, and end about the 1st of March, 1875.

Faculty.

ISAAC E. TAYLOR, M. D.,
Emeritus Professor of Obstetrics and Diseases of Women and Children, and President of the College.

JAMES R. WOOD, M. D., LL. D.,
Emeritus Prof. of Surgery.

FORDYCE BARKER, M. D.,
Professor of Clinical Midwifery and Diseases of Women.

AUSTIN FLINT, M. D.,
Professor of the Principles and Practice of Medicine and Clinical Medicine.

FRANK H. HAMILTON, M. D., LL. D.,
Professor of Practice of Surgery, with Operations and Clinical Surgery.

LEWIS A. SAYRE, M. D.,
Professor of Orthopedic Surgery and Clinical Surgery.

ALEXANDER B. MOTT, M. D.,
Professor of Clinical and Operative Surgery.

W. H. VAN BUREN, M. D.,
Prof. of Principles of Surgery with Diseases of the Genito-Urinary System and Clinical Surgery.

WILLIAM T. LUSK, M. D.,
Professor of Obstetrics and Diseases of Women and Children, and Clinical Midwifery.

EDMUND R. PEASLEE, M. D., LL. D.,
Professor of Gynæcology.

EDWARD G. JANEWAY, M. D.,
Lecturer on Materia Medica and Therapeutics, and Clinical Medicine.

AUSTIN FLINT, Jr., M. D.,
Professor of Physiology and Physiological Anatomy, and Secretary of the Faculty.

ALPHEUS B. CROSBY, M. D.,
Professor of General, Descriptive, and Surgical Anatomy.

R. OGDEN DOREMUS, M. D.,
Professor of Chemistry and Toxicology.

PROFESSORS OF SPECIAL DEPARTMENTS, Etc.

HENRY D. NOYES, M. D.,
Surgeon to the Charity Hospital, etc.; Professor of Ophthalmology and Otology.

EDWARD L. KEYES, M. D.,
Surgeon to the Charity Hospital, etc.; Professor of Dermatology, and Assistant to the Chair of Principles of Surgery, etc.

EDWARD G. JANEWAY, M. D.,
Physician to the Bellevue Hospital, etc.; Professor of Pathological and Practical Anatomy.
(Demonstrator of Anatomy.)

A distinctive feature of the method of instruction in this College is the union of clinical and didactic teaching. All the lectures are given within the Hospital grounds. During the Regular Winter Session, in addition to four didactic lectures on every week-day, except Saturday, two or three hours are daily allotted to clinical instruction. The union of clinical and didactic teaching will also be carried out in the Summer Session, nearly all of the teachers in this Faculty being physicians and surgeons to the Bellevue Hospital and the great Charity Hospital on Blackwell's Island.

The Summer Session will consist chiefly of Recitations from Text-Books. This term continues from the middle of March to the middle of June. During this Session, there will be daily recitations in all the departments, held by a corps of examiners appointed by the regular Faculty. Regular clinics will also be held.

Fees for the Regular Session.

Fees for Tickets to all the Lectures during the Preliminary and Regular Term, including Clinical Lectures	$140 00
Matriculation Fee	5 00
Demonstrator's Ticket (including material for dissection)	10 00
Graduation Fee	30 00

Fees for the Summer Session.

Matriculation (Ticket good for the following Winter)	$ 5 00
Recitations and Clinics	50 00
Dissecting (Ticket good for the following Winter)	10 00

For the Annual Circular and Catalogue, giving regulations for graduation and other information, address the Secretary of the College, Prof. AUSTIN FLINT, Jr., Bellevue Hospital Medical College.

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